Chapter Nine: Evaluation of the South Australian Smoke-free Homes and Cars project

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SUMMARY

In October–December 2000, the South Australian Department of Human Services ran a public education campaign with the message 'If you smoke around your kids, they smoke too. Make your home and car smoke-free'. The mass-media campaign aimed to reduce passive smoking exposure among children of smokers by encouraging domestic smoking bans. The evaluation of this campaign comprised three main phases: a shopping centre intercept survey to measure early campaign recognition and short-term impact; baseline and follow-up surveys of a cohort of approximately 2500 parents to measure medium term impact on numbers of smoke-free homes and cars; and long term monitoring of rates of home and car smoking bans in South Australia, using the annual Health Omnibus Survey.

Both the intercept survey and the cohort study showed high rates of campaign recall and recognition, and most respondents in the intercept survey said that they were interested in the television commercial (77%) and that they thought the message was believable (98%). In both surveys 17% of the sample said the commercial had made some difference to whether people smoked in their home or car, but few of these reported actually implementing a smoking ban. In the cohort study, small increases in rates of smoking restrictions in private homes and cars were observed, particularly among smoking parents, although many of these were not statistically significant. Population monitoring of the broader South Australian community showed that although there was an increase in rates of smoke-free homes and cars from 2000 to 2001, this upward trend was present prior to the campaign and it is therefore difficult to attribute this increase to the campaign.

INTRODUCTION

The relationship between exposure to second-hand smoke (SHS) and ill health in non-smokers has been established in major scientific reviews in the United States, the United Kingdom and Australia.[1-5] In addition to lung cancer in adults, exposure to SHS increases the risk in children of lower respiratory disease[2-4], asthma[2], low birth weight[4] and Sudden Infant Death Syndrome[2,4], and all-cause mortality.[2] While many adults are protected from passive smoking through restrictions on smoking in workplaces and in public places, these measures do little to protect children from exposure to passive smoking, especially when most of their exposure occurs in the home. One step that can be taken by smokers with small children to reduce children's exposure to passive smoking is self-imposed restrictions on smoking in the home.

Previous population monitoring demonstrated that considerable progress had been made in the 1990s towards widespread self-imposed no smoking policies in private homes and cars.[6] Nevertheless, the most recent figures (from 1997) indicated that a substantial number of children of smokers were still exposed to passive smoking in the home and in the car.

In response to the evidence surrounding the harmful effects of passive smoking exposure, particularly for very young children, the South Australian Department of Human Services initiated a Smoke-free Homes and Cars project. The stated aims of the project were '…to:

- reduce harm done to children's health through exposure to second-hand smoke in family homes and cars;
- reduce the proportion of homes and family cars where smoking takes place, in particular in homes and family cars where children less than four years old reside;
- through a campaign, generate community awareness of the harm done to children's health by second-hand smoke and provide support and information to families who wish to establish a smoke-free home and family car; and
- generate community support for extending smoke-free areas further'.

One specific aim of the campaign was to increase the proportion of South Australian private homes and private cars which were 'smoke-free', among households with children under 5. The specific objective was to improve on rates of 'smoke-free' homes and private cars observed in 1999, by a factor of 10 percent by the end of 2001.

The 'Smoke-free Homes and Cars' campaign

The major strategy was an integrated community education campaign with direct support for the project from community-based health workers. The communication plan included a number of specific strategies, including mass media advertising on television, radio, newspapers and outdoor billboard advertising. Other strategies included the development and distribution of targeted resources.

In October-December 2000, the Department of Human Services launched an advertising campaign with the message 'If you smoke around your kids, they smoke too. Make your home and car smoke-free'. Two 30-second television commercials were produced. One was set in a living room (this will be referred to as the 'home commercial') and one was set in a car (referred to here as the 'car commercial'). Two 15-second cut down versions of the commercials were also produced. After the campaign launch (20 October), the television commercials aired for a period of 8 weeks (with a mix of 5 weeks on air and 3 weeks off air). Bonus spots continued at lower weights and for a much longer period. The television buy was supported by other paid media strategies, namely radio commercials, newspaper commercials and a billboard on Morphett Street, Adelaide.

A booklet was produced providing information to parents; stickers and magnets were also produced. A 1300 number was set up to enable people to ring for assistance and further information. The 1300 number was operated out of the offices of Quit, with specialised staff including a number of Quitline counsellors. Booklets were distributed to child care centres, kindergartens and schools, which were able to ring the 1300 number to request extra booklets to distribute to their children and students. Further promotion was undertaken through Quit, Child and Youth Health and other Government networks. A specific *Parent Easy* guide was also created and distributed through Child and Youth Health.

This chapter reports on the evaluation of the major components of this campaign. In particular, this evaluation focuses on responses to the mass media campaign and changes in measures of behavioural change, in relation to smoking in private homes and cars, over time.

The evaluation plan consisted of a number of components:

- Collection of information from callers to the Smoke-free Homes and Cars Hotline
- Early assessment of campaign recall (undertaken through a shopping centre intercept survey)
- Medium term campaign impact on numbers of smoke-free homes and cars (measured through a pre and post-campaign cohort study)
- Long-term monitoring of population trends in smoke-free homes and cars (undertaken through standard monitoring systems)

METHOD AND RESULTS

1. Callers to the Smoke-free Homes and Cars Hotline

Method

Callers to the Hotline were asked a number of questions, primarily to provide a response to their reason for calling the line, and secondarily for evaluation purposes. Evaluation questions were asked with permission at the end of the call, after the caller had received the assistance for

which they rang. The type of caller was recorded during the course of the call (i.e. general public calling for themselves or for someone else; health professional; student; or other). Callers were asked where they had found the Hotline number. They were asked about any advertising they had seen, regarding not smoking around children, and any comments they made about the commercials were recorded.

Results

A total of 68 calls were received during the period from October to December 2000. Overall, 60 came directly through to the Hotline and 8 were forwarded from the Quitline. Taken as a whole, 50% of calls were from kindergartens and child care centres, 18% were from health professionals and 32% were from members of the general public. In total, 88% of callers (60 callers) were ringing to request more booklets. Of the remainder, 3 callers made positive comments about the campaign, and 5 made complaints. Details of complaints were forwarded to Department of Human Services staff by Quitline staff at the time of the call.

2. Shopping centre intercept survey

Method

In order to assess early responses to the campaign, a series of shopping centre intercept surveys were conducted in three major shopping centres in South Australia in December 2000. Surveys were conducted with 350 parents of children aged 5 years and younger. Quotas of 150 smokers and 150 non-smokers were set.

Participating parents were shown a card with scenes from the television commercials, and asked whether they had seen the commercial on television. They were asked a series of questions about their opinions of the commercials and the impact of the commercials on them.

These included: what point they thought the commercials were trying to make; whether they thought the commercials were interesting; whether they liked them or not; whether they recalled the message at the end of the commercials. They were then prompted about the tagline of the commercials 'If you smoke around your kids they smoke too' and asked what they thought this meant and whether this message was believable or not.

Results

Almost half (47%) of the respondents were smokers. There were very high rates of campaign recognition. Overall 87% recognised scenes from 'car' commercial, and 82% recognised scenes from 'home' commercial. Only 8% recognised neither. Recognition was equally high among smokers and non-smokers.

All respondents (who recalled seeing at least one of the commercials) articulated an anti-smoking response when asked what the main message of the commercials was, and 90% mentioned a variation of the message that 'adults shouldn't smoke around children'. The

majority of these respondents reported that they were interested in the commercials (77%), that they liked the commercials (74%), and that they thought the message 'when you smoke around your kids, they smoke too' was a believable message (98%).

Most (93%) said the commercial(s) had made them 'think that parents shouldn't smoke around kids, in homes or cars', and 17% overall (28% of smokers and 8% of non-smokers) said the commercial had actually made a difference to whether or not people smoke in their home or car. (In most cases the reported change was implementing a home or car ban).

3. Pre and post-campaign cohort study of parents

The findings from the preliminary work described above were very limited in their generalisability, due to the small and deliberately biased samples, and could only be taken as an early indicator. Measures of reported behaviour change with greater representativeness were required. The first of these was a prospective cohort study of parents.

Method

Baseline

Respondents were initially recruited during a larger population survey on a different topic, conducted by the Public and Environmental Health Service, Department of Human Services and undertaken by Harrison Health Research. This telephone survey was conducted prior to the campaign commencement, starting in August 2000. Households were selected for participation at random from the metropolitan and country Electronic White Pages. The person in the household whose birthday had passed last and who was aged 18 years or over was selected for interview, and non-contactable people were not replaced. Households were sent a letter of introduction prior to being contacted by telephone.

Overall, 11 050 interviews were completed, giving a response rate of 64.8%. All respondents who met specified criteria were eligible to participate in the future campaign evaluation survey, and were asked a brief series of questions about their smoking behaviour, and about smoking practices in their homes and cars. Eligible participants were asked for permission to be recontacted for the follow-up survey. The criteria were that they must have had a child living with them aged between 0-14 years, at that time.

Overall, 2944 respondents were recorded as eligible (and answered questions about smoking in their homes and cars and their smoking status), and 2553 of those (86.7%) agreed to be recontacted. Although individuals reporting that they had children living with them were not necessarily the biological parent of the child(ren), these people will be loosely referred to in this report as 'parents'.

Follow-up

The follow-up telephone survey was conducted in April 2001. Overall, 2529 respondents were appropriate for recontact and had provided complete contact details. In 216 cases, contact with

the household could not be established due to wrong or incorrect telephone numbers, or no answer after multiple contact attempts. In a further 87 cases, the person selected for interview was away, refused to be interviewed, or terminated the interview before completion. Overall, this provided a response rate of 88% and a total of 2226 completed interviews.

Respondents in the follow-up survey were asked about smoking in their homes and cars, with the following questions (also used in the standard tobacco control indices monitoring discussed later): 'Which of the following statements best describe the situation regarding smoking in your home?' The response options were 'Smoking is banned in my home'; 'There is no ban, but no-one smokes anyway'; 'Smoking is allowed on some social occasions'; and 'Smoking is allowed'. Consistent with standard reporting of these data used here and in other reporting (including in this chapter), respondents who chose either of the first two responses were classified as having 'smoke-free homes'.

The question addressing smoking in cars was: 'Which one of the following options best describes the situation regarding smoking in your car?'. The response options were 'Smoking is banned in my car'; 'There is no ban, but no-one smokes anyway'; 'Smoking is allowed' or 'Do not have a car'. Respondents who chose either of the first two responses were classified as having 'smoke-free' cars. The rate of 'smoke-free' cars was calculated out of those who report having a car and those with no car were excluded. This is the standard definition for 'smoke-free cars' used in this chapter (and in other publications of South Australian data).

Participants were asked whether they had learnt anything new about the effects of smoking cigarettes in the past 6 months. They were also asked whether they would agree or disagree with the statement 'Parents' smoking can harm their children's health'. Unprompted campaign recall was measured, by asking participants if they had seen or heard any anti-smoking advertising in the past 6 months, and if so what it had been about. The campaign was then described, and respondents were asked if they remembered it. They were also asked where they had seen any of the campaign advertising.

The impact of the campaign was measured, in part, by asking respondents if the commercials they had seen had made any difference to whether or not people smoke in their home and/or car. Smoking status was recorded at baseline and follow-up. Although promoting quitting was not the primary objective of the campaign, smokers were asked about any quit attempts they had made in the past 6 months. Smokers and recent quitters were also asked if they thought the campaign had encouraged them to quit, make a quit attempt, or to change their smoking behaviour in any way.

Measures of smoke-free policies in these domestic settings and individual smoking status for the pre- and post-campaign surveys were also compared, to provide a more objective measure of the effect of the campaign.

Chi-square analyses were calculated to compare differences between percentages using SPSS version 10 and Epi version 6.

Results

Sample at baseline

Initially, 2944 individuals were interviewed. Ages ranged from 18 to 80 years, with a mean of 37.9 years (SD=7.8), and 61.4% were female. All respondents were parents of at least one child aged between 0 and 14 years; 40.6% had at least one child aged 0-4 years, 47.4% had at least one child aged 5-9 years and 51.1% had at least one child aged 10-14 years. Overall, 50.6% of those interviewed had no educational qualification higher than secondary school, 32.7% had completed a trade qualification or a certificate or diploma, and 16.6% had completed a bachelor degree or higher.

When asked about smoking, 21.1% reported being daily smokers, 3.8% reported being occasional smokers, and 75.1% reported being non-smokers. Therefore, 24.9% of the sample overall were considered smokers. Among the non-smokers (n=2210), 41.6% were classified as ex-smokers (reported having smoked at least 100 cigarettes in their lifetime). When asked about smoking in the home, 60.2% of respondents reported having a 'ban' on smoking in their home, while a further 21.4% reported having 'no ban, but no-one smoked', giving a total of 81.6% with smoke-free homes. Of the 2892 respondents who reported having a car, 67.6% reported having a 'ban' on smoking in their car, with a further 19.1% reporting 'no ban, but that no-one smoked', giving a total of 86.7% with smoke-free cars.

Sample at follow-up

Among respondents at follow-up, 18.7% reported being daily smokers, 3.2% reported being occasional smokers, and 78.1% reported being non-smokers. Overall, 21.9% were classified as smokers. Among non-smokers (n=1739), 44.7% reported being ex-smokers.

Difference between baseline and follow-up samples

The characteristics of the baseline and follow-up samples were compared. There were no significant differences between the groups in terms of age, sex, marital status, educational or income levels. Respondents from the baseline survey who could and could not be recontacted for the follow-up survey were compared, to see if there were biases in terms of other important factors, such as smoking status and their propensity to restrict smoking in their home.

There was no difference between the two groups on rates of smoke-free homes or smoke-free cars, but those who were followed up were significantly less likely to be smokers at baseline (χ^2=6.51, df=1, p<0.05). Only those respondents who could be recontacted for follow-up are included for analysis over time.

Campaign reach and recall

At follow-up, respondents were asked if they had seen, read or heard any anti-smoking advertising in the past 6 months, and the majority (92.8%) reported that they had. Those who had answered 'yes' (n=2065) were asked what the advertising had been about and overall, 41.5% mentioned the Smoke-free Homes and Cars campaign by either describing at least one of the commercials, or quoting the slogan 'If you smoke around your kids, they smoke too'.

Similarly, 63.9% of those recalling any anti-smoking advertising mentioned one of the National Tobacco Campaign commercials (e.g. *Lung damage*, *Tar lung* or *Eye damage*), 3.6% mentioned nicotine replacement therapy advertising, and 11.6% gave other responses.

Among smokers at baseline (who recalled any campaign; n=499), 38.5% overall mentioned the Smoke-free Homes and Cars campaign (unprompted), and among non-smokers (who recalled any campaign; n=1565), 42.2% mentioned the campaign. The campaign was then described to all respondents, to jog their memory, and they were asked if they remembered this campaign. A large majority (91.7%) said they did. Those who answered 'yes' (n=2042) were asked where they saw the campaign, and multiple responses were accepted.

Overall, 97.6% mentioned one of the television commercials (81.1% mentioned the car commercial, and 77.5% mentioned the home commercial), 8.7% said they had heard a radio commercial, 5.4% said they had seen a newspaper commercial, 2.7% said they had seen the billboard on Morphett Street in the CBD of Adelaide, 7.1% said they had seen a campaign booklet, 1.6% said they had seen a *Parent Easy* guide, and 2.8% gave other responses (including 'can't remember').

Among parents of children aged 0-4 years (who remembered the campaign; n=823), 10.7% reported having seen a campaign booklet. Campaign recall for the whole sample, and the target group of smoking parents of children aged 0-4 years, is presented in Table 1.

Respondents who reported having seen a campaign booklet (n=141) were asked where they obtained the booklet (multiple responses were accepted). Most reported receiving it from their child's school (45.4%), kindergarten or day care (47.5%), while 3.5% reported receiving it from Child and Youth Health or the Parent Helpline, 4.3% reported receiving it in the post, and 7.8% gave other responses, including 'can't remember'.

Table 1: *Campaign recall among whole samples*

	% of all parents (n=2226)	**% of all smokers (n=529)**	**% of primary target group* (n=203)**
Recalled 'Smoke-free Homes and Cars' campaign (unprompted)	38.5%	36.3%	38.4%
Recognised campaign (prompted)	91.7%	92.4%	94.6%
Source of advertising:			
TV commercials	89.6%	90.5%	92.1%
Radio commercials	8.0%	7.0%	7.9%
Newspaper commercial	5.0%	3.6%	3.4%
Billboard on Morphett St	2.5%	2.1%	2.0%
Campaign booklet	6.5%	8.5%	11.8%
Parent Easy guide	1.4%	0.8%	1.0%

*smoking parents of 0-4 year olds

Campaign impact

a. Knowledge and beliefs

Prior to being prompted about the campaign, participants in the follow-up survey were asked if they had '…learnt anything new about the effects of smoking cigarettes, for smokers or other people in the family, in the past six months'. Those who answered 'yes' were asked what they had learnt, and multiple responses were accepted. Overall, 15.3% (340 respondents) answered affirmatively, and of those most (192 respondents) mentioned a specific health effect (e.g. blindness). Fifty-seven respondents (2.6% of the whole sample) mentioned that passive smoking affects children's health, and 39 (1.8% of whole sample) quoted the campaign slogan 'If you smoke around your kids, they smoke too'. Ninety-two respondents gave other responses. Among smokers at baseline (n=529), 17.6% said they had learnt something new about the effects of smoking in the past 6 months, 3.4% (of all smokers) offered that passive smoking affects children's health, and 1.9% quoted 'If you smoke around your kids, they smoke too'.

Respondents were also asked whether they agreed with the statement 'Parents' smoking can harm their children's health', and overall 98.1% agreed (85.9% strongly agreed). Only 0.9% disagreed, with the remaining 1.1% having no view, or responding that they didn't know. Among smokers, 94.5% agreed with the statement (69.8% strongly agreed), 2.1% neither agreed nor disagreed, and 2.5% disagreed.

b. Reported changes to smoking in homes and cars as a result of the campaign

Respondents who remembered the campaign were asked, 'Did these commercials make any difference to whether or not people smoke in your home (car)?' Overall, 85.9% reported that the campaign had made no difference to whether people smoke in their home, and 87.2% said the campaign had made no difference to whether people smoke in their car (those with no car were excluded).

Although a significant minority (17.1%) said that the campaign had had some impact on whether or not people smoke in their home or in their car, only 1.3% (26 respondents) reported that the campaign had encouraged them to implement a new home ban, and only 1.1% (22 respondents) said they had implemented a new car ban.

A further 8.0% (164 respondents) said they had reaffirmed an existing home ban, 6.7% (135 respondents) said they had reaffirmed an existing car ban. Overall, 3.9% said they had restricted smoking in the home in some way (e.g. only smoking in certain rooms) or now smoked outside more often, but not imposed a ban, while 0.4% said they were thinking about implementing a home ban, and 2.0% gave other responses. Similarly, 4.5% said they had restricted smoking in their car in some way (e.g. only smoking when children are not in the car), 0.4% said they were thinking about implementing a car ban, and 0.7% gave other responses.

Among smokers *who recalled the campaign* (n=489), 75.7% said the campaign had had no effect on whether or not people smoke in their home, and 75.5% said it had had no effect on whether or not people smoke in their cars (those with no car excluded). Overall, 34.8% said the

campaign had had some impact on whether or not people smoke in either their home or their car, with 3.9% reporting implementing a new home ban, making their home completely smoke-free inside, and 3.0% reporting implementing a new car ban. Eleven percent reported restricting smoking in their home in some way (but not by completely banning smoking) and 14.6% reported restricting smoking in their car in some way.

These findings are presented in Table 2 for the sample overall, smokers and the target group (including those who did not recall the campaign in the denominator).

Table 2: *Reported effect of campaign among whole samples*

	% of all parents (n=2226)	% of all smokers (n=529)	% of primary target group* (n=203)
Said that campaign made some difference to whether people smoke in their home or car	17.1%	32.1%	31.0%
Made their home totally smoke-free	1.2%	3.6%	3.0%
Made their car totally smoke-free	1.0%	2.6%	3.0%
Restricted smoking in the home (but not stopped completely)	3.6%	10.2%	10.3%
Restricted smoking in the car (but not stopped completely)	3.7%	13.0%	16.0%

* smoking parents of 0-4 year olds

c. Ban measures at baseline and follow-up

Rates of domestic smoking restrictions at baseline and follow-up were compared to measure the impact of the campaign. As mentioned previously, there were some differences between the samples that could and could not be reached for follow-up. Therefore, the following reports only on those who were contactable at baseline and follow-up (n=2226).

When asked about domestic smoking restrictions at baseline, 60.9% of respondents overall reported having a home ban and 21.4% reported having no home ban, but that no-one smoked, giving a total of 82.4% with smoke-free homes.

Among the 2195 respondents who were interviewed during both surveys and reported having a car, 68.6% reported that smoking was banned and a further 18.5% reported that smoking wasn't banned, but that no-one smoked, giving a total of 87.1% with a smoke-free car.

Rates of smoke-free homes increased from 82.4% to 84.6%. Within this, rates of active smoking bans in homes increased slightly over the follow-up period, from 60.9% to 61.4%. Rates of smoke-free cars increased from 87.1% to 88.4%, and rates of car smoking bans increased from 68.6% to 71.1%. The increase in rates of smoke-free homes (χ^2=4.07, df=1, $p<0.05$) was statistically significant but the increase in smoke-free cars was not.

Among smokers (n=529), rates of home smoking bans increased from 50.1% at baseline to 54.4% at follow-up, and rates of all smoke-free homes increased from 54.1% to 59.9% (χ^2=3.71, df=1, p<0.05). Rates of bans on smoking in the car (n=512) increased from 52.1% to 58.0% (χ^2=3.65, df=1, p=0.05) and rates of smoke-free cars increased from 58.0% to 63.8% (χ^2=3.76, df=1, p=0.05).

Similar data were compared for parents of children of different ages. Parents of children aged 0-4 years showed no significant changes, parents of children aged 5-9 years showed a significant increase in rates of car smoking bans only (χ^2=4.83, df=1, p<0.05), and parents of children aged 10-14 years showed no significant changes. Measures of campaign reach and impact for different groups are summarised in Table 3.

Table 3: *Summary of campaign recall and impact among different parent groups*

	All parents	**Smoking parents**			
	(n=2226)	**All (n=529)**	**Kids 0-4 (n=203)**	**Kids 5-9 (n=266)**	**Kids 10-14 (n=256)**
Reported campaign impact					
'Made some difference to smoking in the home or car'	17.1%	32.1%	31.0%	34.6%	28.9%
Smoking actively banned in home					
Before campaign	60.9%	50.1%	63.5%	48.1%	39.8%
After campaign	61.4%	54.4%	62.6%	53.8%	46.9%
Total change	+0.5%	+4.3%	-0.9	+5.7%	+7.1%
'Smoke-free' homes					
Before campaign	82.4%	54.1%	70.0%	51.1%	42.6%
After campaign	84.6%	59.9%	70.0%	57.5%	50.4%
Total change	+2.2%*	+5.8%*	0.0%	+6.4%	+7.8%
Smoking actively banned in car	***(n=2195)***	***(n=512)***	***(n=200)***	***(n=257)***	***(n=245)***
Before campaign	68.6%	50.5%	56.6%	49.0%	49.4%
After campaign	71.1%	56.3%	60.5%	58.8%	53.0%
Total change	+2.5%	+5.8%*	+3.9%	+9.8%*	+3.6%
'Smoke-free' cars					
Before campaign	87.1%	56.1	62.5%	55.2%	55.5%
After campaign	88.4%	62.0%	68.0%	63.0%	57.5%
Total change	+1.3%	+5.9%*	+5.5%	7.8%	+2.0%

Notes: * indicates statistically significant difference (p<0.05)
'Smoke-free' denotes homes or cars with either a ban, or with no ban but with no-one smoking there anyway.

d. Smoking behaviour

To assess flow on, or unintended effects of the campaign, smokers and recent quitters at follow-up (who remembered the Smoke-free Homes and Cars campaign; n=533) were asked if they thought the campaign had encouraged them to quit smoking, to think about quitting or to change their smoking in any way.

Overall, 36% (192 respondents) said the campaign had encouraged them to change their smoking in some way. However, only 1 respondent (<1%) said it had actually encouraged them to quit, while 25 respondents (4.7%) said the campaign had encouraged them to make a quit attempt, 40 respondents (7.5%) said they had cut down their smoking, 11 (2.1%) said they had sought information about quitting, and 59 respondents (11.1%) said they were planning to quit.

Overall, 77 respondents (14.5%) reported that the campaign had encouraged them to make a positive change (with an additional 59 planning to quit). However, 88 respondents (16.5%) reported that the campaign had actually encouraged them to increase their cigarette consumption, instead of making a positive change. In sum, there is likely to be little net change to smoking behaviour as a result of the campaign. It must be noted, however, that smoking cessation was not an intended outcome of the campaign.

4. Long term population changes in smoke-free homes and cars

Method

Since 1993, data have been collected on the prevalence of smoking restrictions in domestic settings in the South Australian Health Omnibus Survey, held in September through November each year. This population monitoring is the final tool of the evaluation of the Smoke-free Homes and Cars campaign.

The method for the survey is outlined in Chapter 10 of this report. Questions about smoking in domestic settings form part of a standard series of questions about smoking issues that are included in the survey each year, and were also used in the cohort survey.

Results

The data from 1999 was nominated as a benchmark against which the Smoke-free Homes and Cars campaign would be measured.

a. 1999 baseline results

In 1999, 53% of South Australians reported that smoking was banned in their home and a further 21% said that smoking wasn't banned, but that no-one smoked anyway, giving a figure of 74% of homes which could be considered smoke-free. Similarly, 63% of South Australians (with cars) said that smoking was banned in their car and a further 15% said that smoking wasn't actually banned, but that no-one smoked in the car anyway. This yielded a figure of 78% of cars which were effectively smoke-free.

The primary target audience for the campaign was smoking parents of children under 5 years. Among households including one or more smoker, in 1999, 64% had smoke-free homes and 51% had smoke-free cars. Among households with smokers and children under 15, 57% of homes were smoke-free and 54% of cars were smoke-free.

b. 2001 results

In 2001, 59% of the sample overall reported that smoking was banned in their home, 20% said there was no ban, but no-one smoked anyway, 5% said smoking was allowed on some occasions, and 16% said smoking was always allowed. In 2001, 65% (of those with cars) reported that smoking was banned. A further 17% reported that there was no ban, but no-one smoked, and 18% said smoking was allowed. Overall, the majority of South Australian homes (79%) and cars (81%) were effectively smoke-free. (This represents only a slight increase since 2000 from 77% for homes and 80% for cars.) Figures 1 and 2 demonstrate the trends observed in the lead up to the Smoke-free Homes and Cars campaign, and the changes observed since. Figure 1 shows a continuing (although slowing) increase in home bans, as well as a decrease in reports of unrestricted smoking in the home.

Figure 1: *Smoking bans in the home, in SA*

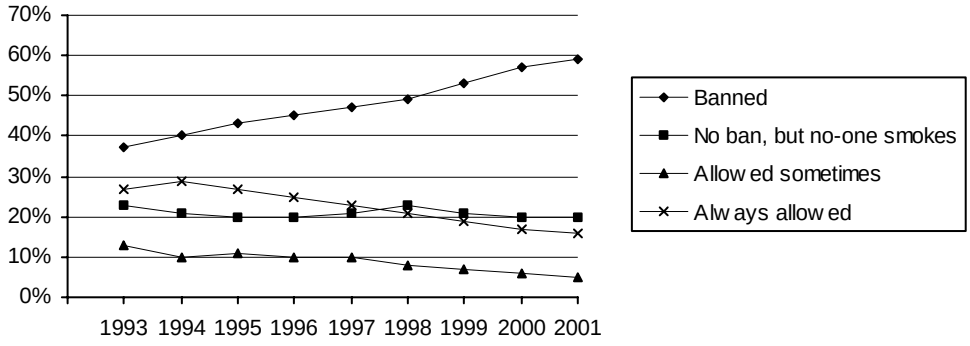
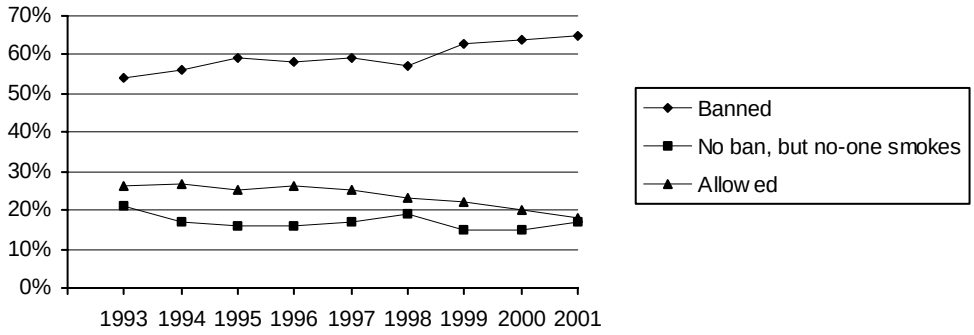


Figure 2: *Smoking bans in cars, in SA*



Figures 3 and 4 present rates of smoke-free homes and cars over time among households with one or more smokers and children aged 4 and under and 14 and under. Households with children aged 4 and under have shown a continued increase in the rates of smoke-free homes, while households with children aged 14 and under have shown an increase in the rate of smoke-free cars.

In 2001, among households with children aged 4 and under, 75% of homes and 67% of cars were smoke-free, and among households with children aged 14 and under, 62% of homes and 61% of cars were smoke-free.

Figure 3: *Home and car smoking bans among smokers' households with children aged 4 and under*

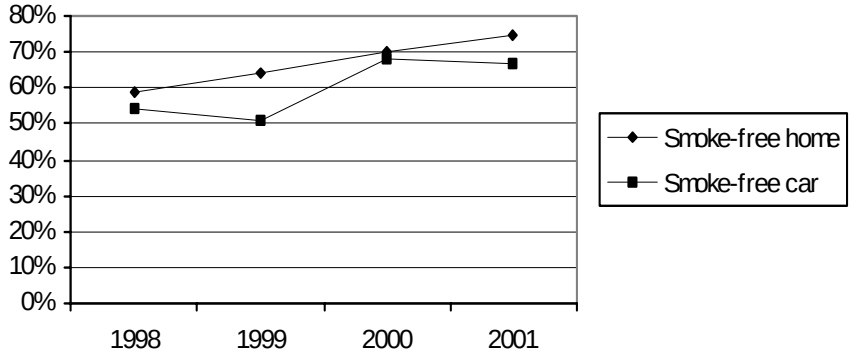
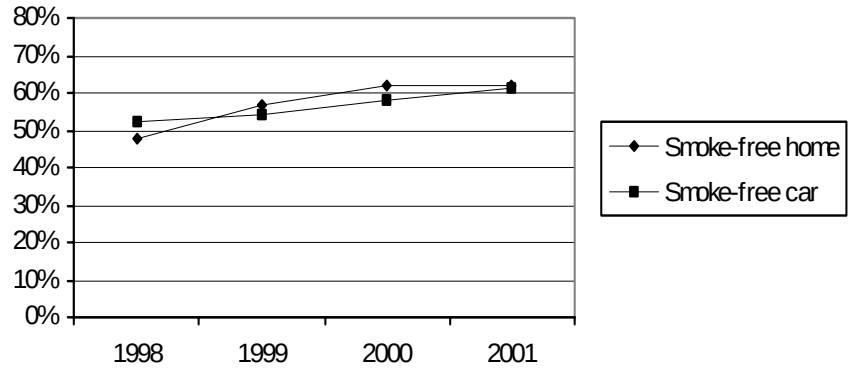


Figure 4: *Home and car bans among smokers' households with children aged 14 and under*



DISCUSSION

Overwhelmingly and consistently, the results of the different stages of evaluations of the Smoke-free Homes and Cars campaign demonstrate that the campaign was successful in accessing its intended audience and a broader audience and that the campaign was well known. Unprompted recall (in the follow-up survey) for the Smoke-free Homes and Cars

campaign was 39%, which compares favourably with the 59% (from the same survey) who recalled the National Tobacco Campaign, which has been running for a much longer period. Prompted recall (of 92%) was very high.

The vast majority of exposure to the campaign came from television commercials, with 90% of the whole sample recalling at least one of the television commercials, compared with 8% recalling a radio commercial (the second most commonly recalled source of exposure). Looking at the primary target audience for that resource, 11% of the parents of children aged 0-4 reported seeing the campaign booklet, which many kindergartens and child care centres were invited to distribute. Television was, by far, the strategy that achieved the broadest reach. Support strategies had some impact, but will most likely have served to reinforce the main delivery medium of television.

Furthermore, the campaign was well-liked. Anecdotal evidence and responses of parents in other qualitative research settings support these findings. The evaluations demonstrated that most parents understood, found credible and agreed with the message that the campaign was promoting, that 'if you smoke around kids, they smoke too'. This is consistent with the finding that 98% of the sample agreed with the statement 'Parents' smoking can harm their children's health'.

Early measures, plus anecdotal reports, were encouraging and suggested that there may have been some changes to behaviour occurring at the time of the campaign. However, these findings were very limited in their generalisability, due to the small and deliberately biased samples, and could only be taken as an early indicator. More robust measures of reported behaviour change were required, prompting the cohort survey. Furthermore, it was important to determine whether any early behaviour change being reported was sustained. This was the role of the population monitoring.

Overall, 17% of the sample in the initial shopping centre survey reported that the campaign had made some difference to whether or not people smoked in their home or car, which was consistent with previous findings. However, only a very small proportion of those reported actually banning smoking. Most reported that they had reduced smoking in their home or car in some way without actually implementing a ban. A greater proportion of smokers (32%) reported that the campaign had made some difference to whether or not people smoke in their home or car.

An examination of the data over the two cohort surveys revealed that no significant change occurred in overall rates of active bans on smoking in cars, or in the amount of smoke-free cars in the broad group. There was also no significant increase observed in the rate of active bans on smoking in homes, but there was a significant increase in the rate of smoke-free homes (the broader definition). However, among smoking parents, some encouraging changes were observed. Although many of the other differences observed were not significant, there were small improvements shown in all smoking restriction measures over time. It is pleasing that there were some movements towards increasing numbers of smoke-free homes and cars, particularly among smokers. However, the changes observed in the cohort study were

consistent with the community's increasing propensity to ban smoking in homes and in cars, prior to the campaign.

Broader population monitoring demonstrated that there were increases in the proportion of households with smokers and children under 5, which were smoke-free. Between 1999 and 2001, smoke-free homes rose from 64% to 75% and smoke-free cars rose from 51% to 67%. These increases (11% absolute increase in smoke-free homes or increase by a factor of 1.17; and 16% absolute increase in smoke-free cars or by a factor of 1.31) met the specified objectives of the campaign, *prima facie*. However, looking at the figures presented in the results, it is clear that the rates of increase have not changed over this period, from the broader trends across time. (One exception was in smoke-free cars, among the target audience, which rose between 1999 and 2000, then trends downwards between 2000 and 2001). In this context it was difficult to attribute behavioural changes observed to the campaign alone.

Other determinants, such as restrictions on smoking in public places (e.g. smoke-free dining introduced in South Australia in 1999) might also have impacted on people's willingness to ban smoking at home. The Smoke-free Homes and Cars campaign ran in South Australia for 8 weeks (not including bonus spots). As such, it might be hoped that this campaign could raise awareness of an issue, and perhaps impact on attitudes. It would be a major achievement for any campaign aired for this short time period to impact on behaviour in the long term. The Smoke-free Homes and Cars campaign subsequently had a second phase, from April 2001.

Promoting quitting was not among the objectives of this campaign with a passive smoking message, but is a desirable potential outcome for any campaign in tobacco control. There was very little quitting behaviour attributed to this campaign by the participants in the evaluation surveys, and a similar (and sizable) proportion of people reported increasing their cigarette consumption as a result of the campaign.

It is important to check that any campaign, does not have unintended outcomes. This is particularly important in anti-tobacco campaigns which include depictions of smoking behaviour. The risk is that the depiction of smoking may prompt the behaviour that the campaign is trying to reduce. Therefore, any campaign which includes images of smoking should be have a clear rationale, grounded in behavioural theory and tested with the target audience during the developmental research stage.

The televisions commercials developed for the National Tobacco Campaign are good examples of this process of theory and practical testing. As explained by Hill and colleagues in the context of developing the National Tobacco Campaign: 'Great care was taken when crafting "smokers moments" to maximise their ability to engage the smoker and convey empathy for the smoker's situation'.[7] The commercials were designed to create a conditioned association between the act of smoking and bodily harm, such that when a cigarette is lit, the campaign images are contemplated. After this theory was developed, thorough focus group research directed the actual depictions of smoking. Smoking was depicted in a slightly negative way and followed with health outcomes, to try to create the conditioned association of bodily harm with the lighting

of cigarettes. For example, one commercial depicted a man lighting a cigarette off a gas stove (smoker's moment). The sound of the cigarette burning and smoke being inhaled were emphasised (identification). The commercial then showed a doctor squeezing fatty deposits out of an artery (health consequence). Smokers were then directed to the Quitline for help (solution).

Clearly, it would be undesirable for a campaign designed to reduce passive smoking to have the unintended consequence of prompting smoking. Although mitigated by other responses, the proportion of smokers who reported increasing their smoking in response to this campaign is worth some deliberation. Even the National Tobacco Campaign advertisements which represent the culmination of 'painstaking formative research'[7] were subject to some complaints that they promote thoughts about smoking (2% of smokers) or make it harder to quit (2% of quitters), because of the depiction of smoking.[8] However these responses were far outweighed by response to the contrary. In any campaign, negative findings must always be weighed against the benefit achieved in other sectors, to assess overall likely public health impact.

In conclusion, recall and recognition of this campaign were high, and the campaign message was clearly understood and accepted by the public. It would, however, appear that the campaign has resulted in minimal independent behavioural change among the population overall. Although, where there was significant behaviour change, it was among the primary target audience of smoking parents. It is likely that the campaign has reinforced the broader societal movement towards expanding smoke-free areas into the domestic settings of private homes and private cars.

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