Every cigarette is doing you damage
Acknowledgments

The National Tobacco Campaign Research and Evaluation Committee is responsible for the strategy, planning, implementation and interpretation of the research that forms this volume. The following experts comprise this Committee:

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Victoria; Research and Marketing Group, Commonwealth Department of Health and Aged Care; Victorian Smoking and Health Program, The Anti-Cancer Council of Victoria; South Australian Smoking and Health Project, The Anti-Cancer Foundation of South Australia.

Particular thanks to the numerous experts who reviewed research in this volume.

The following acknowledgments include all those who made notable contribution during the first and second phase of the National Tobacco Campaign (May 1997 to December 1998).

**Ministerial Tobacco Advisory Group**

David Hill (Chair), James Fox, Kate Purcell, Lyn Roberts (co-opted in September 1997), Maurice Swanson, Judith Watt.

**Communication Sub-Committee (disbanded November 1997)**

Marilyn Chalkley (Chair 1996), Judith Watt (Chair 1997), Trish Cotter, Helene Williams, Viji Ratnam, Lyn Roberts, Julie Urquhart, Fiona Yule.

**Campaign Support Committee (established November 1997)**

Lyn Roberts (Chair), Maurice Swanson (Deputy Chair), Jennifer Alcock, Bev Carroll, Mary Clarke, Alison de Kleuver, David Edwards, Viji Ratman, Ruth Richards, Ailsa Rutter, Anthony Soulsby, Denise Sullivan, Judith Watt, Mark West, Michael Wilson. Executive support – Trish Cotter and Lisa Embling.

**Services to Smokers Sub-Committee**

Lyn Roberts (Chair), Mary Clark, Alison de Kleuver, Anne Gibbs, Maureen Graham, Gail Hamilton, Patricia Kee, Anne-Marie Luetwiler, Christine Morris, Margot Morrison, Caroline Miller, Donna Patterson, Adriane Seaborn, Denise Sullivan, Susie Stillman, Melanie Wakefield, Mark West, Michael Wilson.

**Quit Coordinators**

Government


Staff of Minister Wooldridge’s Office

Office of Government Information and Advertising (subsequently renamed Government Communications Unit)

Ministerial Committee on Government Communications

Tobacco Policy Officers within each State and Territory

Partner organisations


Expert medical advisers


A panel of Australian and overseas medical scientists who reviewed a fully referenced statement summarising the scientific basis of the campaign.

Creative advertising agency

Brown Melhuish Fishlock.
Public relations agency
Quay Connections.

Media strategy, research and other consultancies
Advertising Investment Services, Cultural Perspectives (non-English speaking background strategy consultants), Davidson Consulting (partnership building consultant), Killey Withy Punshon Advertising (SA), Market Access, Media Decisions (WA), Mitchell & Partners (VIC), Roy Morgan Research Centre, Sutherland Smith Ringham, True North Media, Williams Media Audits (strategic media advisors to the Victorian Quit Campaign and the Anti-Cancer Council of Victoria).

Media industry
Australian print media for their vital assistance in raising community awareness.

Australian television and radio stations for broadcasting commercials as community service announcements.
Since the launch in June 1997 the National Tobacco Campaign has grown to be the most collaborative, intense and sustained anti-tobacco campaign ever seen in Australia. The National Tobacco Campaign has maintained a high public presence with strong relationships and support from the Commonwealth, State and Territory governments, Quit Campaigns and key non-government groups involved in tobacco control.

Significant achievements in the area of tobacco control have been made in Australia since the release of the National Tobacco Campaign Evaluation Report Volume One in 1999. In particular, I am very proud of the development and implementation of the National Tobacco Strategy which is progressed through the Ministerial Council on Drug Strategy (MCDS) and Intergovernmental Committee on Drugs (IGCD) and supported by the National Expert Advisory Committee on Tobacco (NEACT). For the first time in Australia this strategy represents a truly national approach to setting tobacco control priorities, with every State and Territory contributing to the development and implementation of key issues identified in the strategy. The National Tobacco Campaign makes a significant contribution to the strategy.

This second volume of the National Tobacco Campaign Evaluation Report shows that recognition of the campaign remains high and that it continues to be perceived by the Australian public as relevant and thought provoking. Furthermore, the impressive reduction in adult smoking prevalence achieved in the first phase of the campaign was sustained throughout 1998, resulting in major positive health outcomes for Australia.

Results from an economic evaluation of the National Tobacco Campaign are also included in this volume of the Report. The evaluation concludes that the campaign is excellent value for money, and indicates that, incorporating both state and Commonwealth resource commitments, the total cost offsets achieved paid for
the campaign more than twice over. I am extremely pleased with this result, one which reflects the hard work and commitment from everyone involved in the campaign and confirms the benefits of continuing with the strategy.

Contributing to the success of the campaign throughout 1998 was the introduction of two new television advertisements. The first focusing on stroke as being a health effect caused by smoking (Brain) and the second being a call to action featuring the cessation support service of the Quitline (Call for help). The Call for help execution has been very effective in empowering smokers to seek help, and has consistently resulted in increased numbers of calls to the Quitline nationally when aired.

The National Tobacco Campaign has generated considerable international interest with adaptations of the television advertisements being adapted for use in the United States, New Zealand, Singapore, Cambodia, Iceland, Poland and British Columbia. The campaign has received recognition through several industry awards both here in Australia and overseas.

Once again, I would like to acknowledge the continued dedication and contribution of everyone involved in the campaign and feel sure that we can all be proud of the achievements that the National Tobacco Campaign continues to deliver for the health and well-being of all Australians.

Dr Michael Wooldridge
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Appendix A

CAMPAIGN ADVERTISEMENTS AND PROMOTIONAL MATERIAL ...............245
Perspectives on the Australian National Tobacco Campaign

David Hill, Ron Borland, Tom Carroll, Rob Donovan, Jenny Taylor
The National Tobacco Campaign Research and Evaluation Committee
This is the second volume of evaluation studies on the National Tobacco Campaign which commenced in 1997 and was targeted primarily at 18 to 40 year old smokers. The first volume focused on results to the end of phase one, an intense mass-media-led campaign over the six-months from June to December 1997. The chapters in this volume track the effects of the campaign through to the end of 1998 and report additional data for the whole campaign which was not available at the time volume one was released. The second phase of the campaign continued with strategies that had been shown to be successful from the outset, although the campaign was implemented at a lower level of intensity, particularly in respect of paid television advertising. New, but thematically consistent advertising material was introduced during this stage.

Behavioural theory was translated into an advertising agency brief for phase one of the television campaign to prompt smokers to put the issue of quitting smoking on ‘today’s agenda’. In terms of the stages-of-change model of the process of quitting (Prochaska and DiClemente, 1983), an emotive call to action would be most likely to prompt smokers already intending to quit, to make a great attempt now. But it might also be a stimulus for pre-contemplators to start thinking about quitting and it might help people who’ve already quit to stay quit. The evaluation of phase one showed that the campaign was indeed associated with movement of the population surveyed through several stages-of-change.

The five television advertisements comprising phase one and phase two can be viewed on the compact disc enfolded at the back of this book. In phase one, three health effects advertisements were used (Artery, Lung, Tumour) and in phase two another health effect about stroke (Brain) and an advertisement modelling the behaviour of calling the Quitline (Call for help) was introduced. The four health effects advertisements have four distinct components, each designed to achieve a specific hypothesised outcome.

1. An empathetic portrayal of a slightly awkward but typical smoking moment, to show that intent of the advertisement is to understand and help smokers, not hector them.
2. A sequence of visuals to forge a strong associative link (through repeated screenings) between the acts of lighting/inhaling a cigarette and images of the harm when smoke enters the body.
3. ‘New news’ about the damage smoking does, presented as graphic negative health effects.

4. A slogan “Every cigarette is doing you damage” to stress the ongoing effects of smoking and to counter the smokers’ rationalisation that smoking is like a lottery (you’re fine unless your number comes up).

The health effects advertisements are visceral and confronting (prior research had indicated that smokers reported that this is what they needed), and it is intended that the smoker’s reaction would be “I can’t bear to think I am doing that to myself”. At the end of each advertisement the national Quitline number was displayed. Each smoker calling this number had access to trained smoking cessation counsellors.

As reported in volume one, there were large numbers of calls to the Quitline in phase one and the numbers per week closely paralleled the amount of television advertising in both phase one and phase two (see Figure 1). To build on this success by encouraging further calls, the Call for help advertisement was also introduced in phase two.

![Figure 1](image_url)

**FIGURE 1** NATIONAL TARPs VERSUS QUITLINE CALL RESPONSE

(18 MAY 1997 – 3 JANUARY 1999)

The National Tobacco Campaign is probably the most comprehensively evaluated national health promotion campaign mounted in Australia to date. In this
FIGURE 2: IMPLEMENTATION AND EVALUATION TIMELINE
volume we report on continuing trends in response to the campaign, quitting and overall smoking prevalence. In addition, we provide much new information on the ‘input side’ that is, quantification of the level of expenditure and effort which went into the campaign and information on factors external to and uncontrolled by the campaign, for example, price of cigarettes, which can be thought of as confounders in statistical analyses to relate health promotion campaigns to their outcomes. From such comprehensive data sets it was possible to begin the economic analyses which will be important information for policy-makers in deciding which are the ‘best buys’ in health promotion and disease prevention.

Figure 1 shows the amount of television advertising (in target audience rating points) undertaken each week of the campaign from May 1997 to December 1998 and the corresponding number of calls to the Quitline generated throughout Australia for each of these weeks. Figure 2 sets out the stages and key events in phases one and two of the campaign.

Response to the campaign continued to be very positive. Recognition of the campaign remained high and the campaign television commercials continued to be seen to be “relevant”, “believable”, and “thought-provoking.” As well as a new confronting health effect advertisement (Brain), a feature of the second phase was a heavy schedule of screening the Call for help advertisement. Throughout the second phase of the campaign calls to the Quitline continued to be monitored and, if anything, the levels were higher than in phase one in relation to the amount of advertising. This suggested both a continued flow-through of effects from phase one and the potency of the Call for help advertisement which was specifically modelling smokers calling the Quitline and showing the sympathetic and professional response callers are likely to receive. Call for help was carefully crafted on the basis of market research with smokers in the target age group whose expectations about the style and quality of the Quitline service had often been quite negative.

In addition there were significant increases over and above levels reported for the first follow-up in the proportions of children encouraging parents to quit smoking and of people obtaining information about quitting and using nicotine replacement therapy.

Importantly, the significant reduction in overall prevalence reported to the end of phase one (November–December 1997) was sustained through the following year, suggesting that the initial response was not a temporary or chance effect
(see Table 1 and chapter two for a discussion on these data). Nevertheless, this result is no cause for complacency since prevalence did not continue to decrease at the same rate as reported in the first evaluation and, unlike in the phase one evaluation, there was no further movement of smokers through the stages-of-change for smoking cessation.

**TABLE 1: SMOKING PREVALENCE**

<table>
<thead>
<tr>
<th></th>
<th>Enumerated household sample</th>
<th>Informant sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>OR</td>
</tr>
<tr>
<td>Benchmark</td>
<td>23.5</td>
<td>1.00</td>
</tr>
<tr>
<td>Follow-up 1</td>
<td>22.1</td>
<td>0.93</td>
</tr>
<tr>
<td>Follow-up 2</td>
<td>21.8</td>
<td>0.89</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>

Although the campaign was not designed for, nor targetted toward, young people at risk of taking up smoking, it was nevertheless probable that the campaign advertising would also be seen by these young people and potentially have an effect on their attitudes toward smoking. Prior to the launch of the first phase, it had been established that this advertising would not be counter-productive with young people. In this volume, we report on a survey carried out with 14–17 year olds, 18 months after the campaign began. There was almost universal recognition of the campaign, and young smokers among the sample found the campaign at least as relevant to them as did their adult counterparts. If anything, the teenage smokers reported being more influenced by the campaign than adults in a number of key ways. Hence, although the data we have on teenagers’ response to the campaign is not strong enough to claim any impact on reducing teenage smoking prevalence, these findings are encouraging and suggest that a campaign may well have a positive impact on young people despite not appearing to be overtly targeting them. This effect of the campaign among teenagers is consistent with the view among a number of health promotion specialists that the uptake of smoking among teenagers is unlikely to be reduced unless and until adult smoking rates decline and that there are significant risks in attempting to create “cool” teen-specific campaigns that miss the mark, are seen to be patronising, and therefore backfire (Hill, 1999).
A separate tracking survey (interviews weekly with different samples of about 100 adults) was undertaken to evaluate the extent to which campaign advertising stood out from other advertising at the time (cut-through) and other measures of immediate advertising effects. Not surprisingly, given the lower media weighting in 1998, cut-through for the campaign was less than in 1997. However, important lessons were learned concerning how much the media buy can be reduced in later phases of the campaign without compromising ongoing effectiveness, and of the particular utility of the positive modelling approach of the Call for help execution in generating calls to the Quitline.

The campaign attracted considerable media coverage which is quite easy to document for the print media but far more difficult to quantify for the electronic media with its multiplicity of television and radio stations. This evaluation clearly shows that tobacco issues were widely reported throughout the life of the campaign and campaign-specific coverage was focused around the times different components of the campaign were publicly launched.

The relationship between increasing the price of cigarettes and reduced consumption at a population level is now well documented. It was important to know if the price of cigarettes paid by smokers changed during the life of the campaign since if price increases were sufficiently large, price would have to be credited with some or all of any reduction in smoking. In a unique data collection exercise throughout the life of the campaign, a team of price monitors throughout Australia documented the price of leading brands of cigarettes in various kinds of outlets including supermarkets, corner stores, petrol stations and tobacconists. There was an upward drift in prices but increased price was judged to be sufficient to explain only a small fraction of the reduction in smoking estimated from the population surveys.

Support for the campaign came from many quarters and the value of contributions in cash and in kind from government and non-government health organisations cannot be underestimated. As well, the advent of over-the-counter sales of nicotine replacement therapy in September 1997 and the associated product advertising thereafter presumably assisted in the achievement of campaign goals, just as the campaign probably helped promote nicotine replacement therapy sales.

An outstanding part of this volume is the chapter on the economic evaluation of the campaign. In order to form a basis for the calculations for the economic study,
it was necessary to measure the amount and value of anti-tobacco effort across the country during the period of the campaign. In a data collection exercise, unique in tobacco control in Australia, all jurisdictions and organisations involved in tobacco control contributed information on their activities and costs so that the cost side of the equation could be completed. The benefit side was drawn from the survey data indicating a reduction in prevalence of about 1.4% for the first six months of the campaign. As noted above, this reduction was sustained over the following year, giving confidence to the basis for the estimate that the first six months of the campaign resulted in a net 190,000 fewer smokers in Australia. The conclusion from this work was that the National Tobacco Campaign is excellent value for money from a variety of perspectives and confirms the desirability of continuing. On the basis of the assumptions used, the first phase of the campaign should have prevented 922 premature deaths and achieved an additional 3,338 person years of life up to the age of 75. Further, even in money terms, it was excellent value for money as it would have been expected to have averted costs to the health system of $24 million which was far in excess of the estimated $9 million expended by the federal, state and territory governments and partner organisations combined.

At least up to the end of its second phase, the National Tobacco Campaign has delivered important health and economic benefits to the nation. The results seem to vindicate the Commonwealth Health Minister’s 1996 initiative of allocating substantial new funds for an intensive six-month campaign in an attempt to restart a downward trend in the prevalence of smoking in Australia. Despite its success, there are signs of a slowing down of the key indicators of impact on smoking behaviour, and this is not surprising given the reduced expenditure, particularly on advertising. Campaign strategies, target groups and advertising themes need to be kept under review and refreshed on an ongoing basis.
References


Chapter One

BACKGROUND TO THE CAMPAIGN IN 1998

Jennifer Alcock
Commonwealth Department of Health and Aged Care
New News and an Offer for Help

The combined effect of the publicity and advertising achieved for the launch of Artery and Lung advertisements in June 1997 and shortly thereafter with Tumour, generated motivation to search for a new health effect. It was expected that the additional advertisement would capture the attention of smokers, provide a platform for publicity and inject more variety into the campaign.

Within a household survey conducted in Victoria by the Anti-Cancer Council of Victoria in 1994 and 1995, respondents (including smokers, past smokers and never smokers) were asked to nominate an illness which was caused by smoking. Stroke/vascular disease was nominated by less than 0.3% of respondents and was the least salient of the major smoking-related illnesses including lung cancer, heart disease, emphysema, bronchitis, asthma, other cancers and respiratory problems. (Mullins et al, 1996).

From the point of view of the creative execution, depiction of a stroke had all the ingredients of the successful Artery advertisement; a potentially powerful ‘visceral’ image, an autopsy specimen and the credible image of a surgeon’s gloved hands. And so, the concept for the new advertisement entitled Brain was developed. It used the same creative approach as the initial three advertisements and depicted graphic images of smoking related stroke.

Brain was based on the actual pathology documented in a case study of a 38 year-old woman. Her age was highlighted in the voice-over to emphasise the early onset of disease processes and dispel the myth that you can smoke for many years before the damage occurs. A neurologist from a major Melbourne teaching hospital, who was an integral part of the development and filming of the clinical aspects of the advertisement, provided the case study. The Brain Foundation and the National Stroke Foundation provided considerable additional scientific input.

Unlike the relatively solitary moments of the smokers in Artery, Lung and Tumour, the smoker in Brain was shown opening a sliding door to remove herself from her children in order to have a cigarette. The scene ends with her glancing in the direction of the children. The inference that her voluntary exile is to protect her children from the smoke was a subtle part of the ‘smoker moment’ primarily
designed to increase audience identification rather than to send a message about passive smoking.

The formative research in the final stages of the production of Brain revealed that the initial campaign advertisements (having been on-air intermittently for nine months) combined with the concept for Brain, caused sufficient cognitive dissonance within some focus group participants to prompt their request for information about cessation support services. Further probing revealed limited awareness and misconceptions about the Quitline. One participant who suggested that ringing the Quitline would connect him with some sort of ‘nagging granny’ exemplified this.

Thus the research process identified an imperative to produce an advertisement for this support service. Call for help was developed shortly thereafter to promote the advice and information available through the Quitline. The advertisement was designed to position the service as accessible, friendly and professional; to increase belief in the efficacy and acceptability of seeking support; and to provide encouragement to call the line.

A behavioural modelling approach was used, depicting a smoker initiating a call to the line. The opening shot of the caller dialling amongst the clutter of smoking paraphernalia used the same empathy device of the ‘smoker’s moment’ in the health effects advertisements. The caller is then taken on a journey down the telephone line into the Quitline call centre in a similar manner to the journey down the trachea depicted in the health effects advertisements.

Four pieces of counselling advice were featured in the advertisements, selected from a range that represented common caller situations. They included how to prepare to quit, specific quitting aids such as nicotine gum and patches, a lapsed quit attempt, and dealing with cravings. To maximise authenticity, the conversations were improvised around pre-determined themes rather than being strictly scripted. Half of the counsellors featured were genuine Quitline counsellors rather than actors.

Qualitative testing of the first ‘rough cut’ versions of Brain and Call for help suggested a synergy between the two advertisements. When viewed in succession, focus group participants acknowledged the interplay of the two advertisements: “You scare us in the first one then show us what we can do about it in the second”. This ‘push-pull’ strategy had previously been used with television (push) and radio
(pull) however this was the first opportunity for it to be used in the same media vehicle.

On 22 April 1998, 10 months after the launch of the first campaign advertisements, *Brain* and *Call for help*, were launched by the Commonwealth Minister for Health at an event in Melbourne. The event generated considerable publicity and the Quitline was inundated. There was a four-week delay in airing the advertisements in Queensland. Analysis of the weekly call data for each state suggests that a national record of approximately 10,000 calls a week would have been achieved if the launch had been simultaneous in all states and territories.

A full-page colour print advertisement featuring the cut brain, was also produced. The print advertisement contained a small CAT scan image of an infarct. Poster reprints of the advertisement were distributed throughout the Quit distribution network, particularly during National Stroke Week which occurred not long after World No Tobacco Day.

The *Brain* and *Call for help* advertisement can be viewed on the CD ROM inside the back cover of this volume. The *Brain* print advertisement appears in Appendix A.

**MEDIA BUYING STRATEGY**

During 1998 national media consisted of three flights of paid media activity. The first commenced in late December 1997 to early January 1998 in an intense ‘New Year’ campaign. The next occurred in April to June with the launch of *Brain* and *Call for Help* and ran through World No Tobacco Day (May 31) to finish in June. The final phase of activity commenced at the beginning of October and finished early December (see graph of national media spend in Appendix 4a, chapter 4).

The strategy for media placement followed three general principles. The first was to create a cyclical flightsing schedule that would incorporate potential quit dates such as World No Tobacco Day (May 31) and New Year. The second was to continue to use television as the primary media channel with target audience rating point (TARP) levels of between 100 and 200 per week to maintain Quitline call levels with maximum efficiency. Thirdly, avoiding the December pre-Christmas period during which there is substantial retail advertising clutter and evidence for reduced interest in quitting (Donovan et al, 1999).
The bulk of media activity was television advertising. Radio was used within the New Year and World No Tobacco Day promotions. Print advertisements were placed in newspapers nationally for New Year and in Queensland and Western Australia the full page colour *Brain* advertisement was placed for World No Tobacco Day.

During the April-May launch period of the *Brain* and *Call for help* advertisements a ‘double spotting’ regimen was applied to maximise the impact of the push-pull effect; the health effects advertisement placed first followed by *Call for help*, at the beginning and end of the commercial break. A 15-second version of *Call for help* was produced later in 1998 to maximise the flexibility and efficiency of media buying.

QUIT DATE ’98

The first six months of fairly intensive campaign activity had moved many smokers along the quitting continuum. The New Year period with its propensity for personal resolutions provided an opportunity to mobilise these smokers to set a date to quit. The strategy was designed to promote the social desirability of quitting at New Year; to provide a strong call to action, and to engender and reinforce self-efficacy by increasing knowledge about the quitting process. A secondary objective was to increase cessation support activity by friends and family.

The strategy ‘Quit Date ’98’ ran for two intensive weeks commencing immediately after Christmas until mid January 1998. Media consisted of light television advertising using the existing executions *Artery*, *Lung* and *Tumour*, and radio and print advertising with specific New Year messages. A national network radio promotion consisted of ‘live reads’, a daily on-air countdown, and promotional give-away Quit Date ’98 packs. The print and radio advertising which appeared after New Year’s eve was designed to increase the chances of cessation maintenance.

NON-ENGLISH STRATEGY

A non-English communication strategy was launched on 20 February 1998 at a Melbourne factory. The strategy was developed in recognition of the high smoking prevalence among some ethnic groups, varying levels of English language proficiency and differential use of mainstream and ethnic communication media.
The strategy targeted smokers and recent quitters aged 18–40 in the Italian, Greek, Arabic, Vietnamese, Chinese (Mandarin and Cantonese), Spanish, Korean and Turkish. Blue-collar males in this age group were a primary target due to the socio-economic and gender differential in smoking prevalence amongst a majority of these groups.

Research during the development of the strategy determined that the mainstream campaign images were already salient within the targeted language groups. *Tumour* was found to have the greatest potential effectiveness and was selected as the primary image for non-English materials.

The components of the strategy were ethnic radio and press advertising, publicity, initiatives with workplaces and involvement of General Practitioners and bilingual health and medical community members. The advertising schedule ran from February to April 1998. Public relations activities and workplace mail-outs continued until June 1998.


**COUNTER ADVERTISING DURING TOBACCO SPONSORED SPORT**

The annual Grand Prix motor racing event held in Victoria in March is one of a handful of sporting events to receive an exemption from the Tobacco Advertising Prohibition Act.

Sponsorship of the televised coverage of the event by the National Tobacco Campaign provided an excellent vehicle to reach the primary campaign target group and to counter the effects of tobacco sponsorship of teams participating in the event. The sponsorship package included paid advertising on the Nine television network in all metropolitan markets and the Victorian regional market. Placement of the *Artery* advertisement with its ‘desperate’ smoker and stark depiction of disease provided a counter to the associations of excitement and glamour that the tobacco sponsors would have desired for their brands.

Impact of the advertising was enhanced by opening and closing television credits, and text ‘pull throughs’ of “Every cigarette is doing you damage, Quitline 131 848”. The juxtaposition of these sponsored messages against the tobacco branding of some racing teams was designed not only to influence smokers but to
enhance public debate about the appropriateness of tobacco sponsorship of sporting and cultural events. Quit Victoria generated considerable publicity to this end.

In September 1998 the Commonwealth Minister for Health, Dr Michael Wooldridge announced that all tobacco sponsorship for international sporting events held in Australia would be phased out by 2006.

WORLD NO TOBACCO DAY

The phase of advertising prior to the launch of Brain and Call for help served as a priming period for World No Tobacco Day. The World Health Organization slogan “Growing up smoke free” was adapted to “Quit for a smoke-free family” to better fit the campaign’s cessation objective. In recognition of the important role families and friends play in cessation support, mobilisation of these key influencers was included in the strategy.

A cinema promotion featuring a ‘Smoke-free family pass’ took place in four states – (New South Wales, South Australia, Victoria and Tasmania). Events were held in major metropolitan cinemas in Adelaide, Melbourne and Sydney.

Radio advertising provided a call to action for smokers to quit on World No Tobacco Day and for friends and family to support them in their attempt. Also promoted were the multiple family benefits associated with quitting. Publicity was enhanced by research released in Victoria relating to increased risk of smoking uptake by children in households where parents smoke, and in New South Wales, research relating to the teratogenic effects of smoking.

PARTNERSHIPS

A JOINT INITIATIVE

During 1998 the collaborative nature of the campaign infrastructure continued to strengthen. The two new television commercials were produced through combined funds from the Quit campaigns in Victoria and South Australia, the Western Australian Department of Health and the Commonwealth Department of Health and Aged Care. The cost of media advertising schedules were shared by each state and territory and the Commonwealth.

This funding approach served to ameliorate the effects of differing budget cycles within the various partner organisations and helped to achieve maximum
media exposure over the year. Many state and territory Quit campaigns extended the Commonwealth’s media buy with additional funding or placed complementary media such as radio.

Throughout the year substantial effort nationally and locally was devoted to promotional activity and publicity to extend the reach of the advertising and maintain momentum. A Campaign Support Committee consisting of representatives from all jurisdictions was formed to facilitate communication with state and territory Quit Coordinators. It replaced the smaller Campaign Communication sub-committee.

OTHER ASSOCIATIONS AND ALLIANCES

Informing General Practitioners about campaign development and enlisting their support in promotion of cessation activity was a major focus of partnership activity. A promotional postcard for the New Year Quit Date ’98 campaign was organised by the National Heart Foundation. The postcard, featuring the Artery image, was sent to approximately 10,000 General Practitioners in all states except Queensland and Victoria. The card thanked doctors for their support, and encouraged them to promote cessation within their practice setting. A tear-off postage paid reply card invited them to order 20 free copies of the Quit book. About 20% of those who received the card took up the offer.

An additional mail-out to General Practitioners occurred shortly before the launch of the Brain advertisement. Enclosed were fact-sheets regarding the advertisement and clinical information regarding Stroke. Campaign organisers considered the mail-out to be crucial in providing doctors with prior warning of the campaign, not only because of the frightening imagery but because the voice-over contained a line “Some (strokes) you don’t even know you are having”. Market testing of the advertisement prior to launch suggested that this line was not likely to cause a deluge of requests for brain scans, however it was felt prudent to inform doctors that an advertisement featuring stroke was about to be launched.

A timely boost for the campaign was delivered by the pharmaceutical companies manufacturing nicotine replacement therapy. Those with the major market share were very active in the marketplace during 1998 as a result of rescheduling of the transdermal nicotine replacement patches in September 1998 to allow direct consumer advertising. As a result the October to December period of
National Tobacco Campaign advertising coincided with considerable consumer marketing activity for nicotine replacement therapy. A promotion associating one brand with the high profile New Year quit attempt by Australian cricketer Shane Warne drew considerable publicity, and controversy, at the end of 1998 and beginning of 1999.

INTERNATIONAL RECOGNITION

The campaign continued to receive domestic and international accolades as evidenced by continued requests for use of the advertisements and by advertising industry awards.

Components of the campaign advertising have now been used in the United States (Massachusetts), United Kingdom, Canada (British Columbia), Singapore, New Zealand, Poland, Iceland and Cambodia. Examples of the materials have also been featured in numerous national and international marketing texts.

Recognition of excellence within the advertising industry has come through awards including the 1998 Kinsale International Advertising Festival of Ireland, the Australian Writers and Art Directors Awards 1999, the Buspak Creative Awards 1999, and the Australian Television Awards 1999. Finalist status was achieved in the Caxton Awards 1997 and 1998, the Integrated Media Awards 1998, the Irish Advertising Awards 1998, and the London International Awards 1998. In 1999 the Singapore Ministry of Health became ‘Advertiser of the Year’ in the inaugural Singapore Advertising Hall of Fame awards, for their campaign which features materials adapted from Australia’s National Tobacco Campaign.
References


Chapter Two

CHANGES ASSOCIATED WITH THE NATIONAL TOBACCO CAMPAIGN: RESULTS OF THE SECOND FOLLOW-UP SURVEY

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Abstract

The National Tobacco Campaign was aimed at smokers aged 18–40 years with the message that “Every cigarette is doing you damage”. This was principally conveyed through television advertisements and supplemented by other promotional material. The first phase included three television advertisements (*Artery, Lung* and *Tumour*) portraying the damage smoking inflicts on the body. The second phase of the campaign involved the launch of two additional television advertisements on 22 April 1998; *Brain*, which depicted a stroke, and *Call for help*, which was a direct appeal to smokers to seek help to quit by contacting the Quitline.

In order to assess the performance and outcome of the campaign, benchmark (May 1997) and follow-up (November 1997) evaluation surveys were undertaken. As reported in Wakefield (1999), the findings of these two surveys showed that after six months, the campaign was influencing smokers in the manner intended.

A second follow-up evaluation survey was conducted in November 1998, one year after the first follow-up survey. Key findings include the following:

- continued recognition of campaign advertising by 87% of smokers and recent quitters from first to second follow-up;
- reported new learning about the health effects of smoking cigarettes by 23% of smokers and recent quitters maintained from first to second follow-up;
- increase from 32% to 36% of smokers feeling bad about being a smoker from first to second follow-up;
- increases in getting help to quit smoking from first to second follow-up, especially through discussion of smoking and health at home (from 36% to 42%), use of nicotine replacement therapy (from 10% to 15%) and information from Quit literature (from 16% to 24%);
- an overall reduction of about 1.8% in the estimated adult prevalence of smoking over the 18 months since the campaign was launched.

The results of the second follow-up evaluation survey show that the campaign advertising continued to have an impact on smokers, and gains made in the first phase were largely retained with a reduced media buy. Further reductions in prevalence do not appear to be ‘incubating’, since there were no improvements in
movement of smokers through the stages of change or in quitting intention. Hence, it may require new campaign material and greater media exposure to achieve further improvement.
Introduction

The National Tobacco Campaign was launched on 12 June 1997. Findings from the first follow-up evaluation survey conducted six months after the launch of the campaign were encouraging. The findings suggested that the campaign was encouraging smokers to quit. There were indications that the campaign may have influenced adult smoking prevalence – a statistically significant reduction of about 1.5%.

The first phase of the campaign, from June to December 1997, saw the launch of three television advertisements, *Artery, Lung* and *Tumour*. Advertising activity was scheduled throughout the year at varying weights. The annual Target Audience Rating Points (TARPs) was calculated by adding the average weekly TARPs for 1997 giving a total of 2,652 for that period in 1997 (an explanation of TARPs is in Appendix 4A). TARPs relate only to a defined target group (in this case 18–39 year olds) and are a measure of the proportion seeing the campaign and the number of times seen. For instance, the figure of 2,652 may result from every person (100%) seeing the advertisement at least once, thus an average number of times seen would have been 26.52. The same figure might represent 50% having seen it, in which case the average times seen among those would have been 53.04, and so on. During the second phase of the campaign, from January to December 1998, two additional television advertisements were introduced, *Brain* and *Call for help*. The television investment during this phase yielded an annual total TARPs of 2,767. Although the total TARPs for both phases was relatively similar, it is important to note that the second phase (12 months) was double the period of time as compared to the first phase (six months). In the three months preceding each of the follow-up evaluation surveys in November 1997 and November 1998, 929 TARPs and 656 TARPs were observed respectively.

The difference in the investment in media activity between the two phases of the campaign would thus have implications on the performance indicated by the evaluation measures. It was expected that measures which are affected by the accumulation of campaign exposure would continue to increase or at least be sustained. Examples of such measures are recognition (ever having seen campaign advertisements) and knowledge and beliefs relating to campaign-specific messages.
Measures that are dependent on recent exposure to campaign advertisements would be expected to decline due to the lower level of media activity in 1998. An example of such a measure would be recall of campaign advertising in the past three months.

In order to confirm that any observed positive outcomes are attributable to the campaign, a pattern needs to be sustained over a long timeframe. To evaluate whether the campaign continued to have an effect over time, the second follow-up survey assessed changes in a range of measures. Three patterns of results are possible.

First, the results could show further positive changes in the measures. This means that the campaign was not only able to sustain but also increase the initial positive effects over time. This would be encouraging given the lower level of media weight in 1998.

Secondly, there could be no statistical difference or a small decrease from first to second follow-up but with the overall outcome still greater than at benchmark. This is a more realistic result. The intensive media buy in the initial period between the benchmark and first follow-up surveys may have resulted in more dramatic changes in participants’ responses. However, in the longer period between the first and second follow-up, participants’ responses would be likely to reflect some decline. This decline could also be explained by smokers becoming habituated to the messages conveyed in the campaign advertising. However, the campaign advertising may continue to exert a positive influence in maintaining previous gains.

The third possibility is that the data could show a decrease in the measures to pre-campaign levels or even lower. This could indicate that the initial positive response to the campaign was of a short-term nature and could not be sustained. Such an outcome would be of concern. Alternatively, it may be due to the measure being dependent on the level of recent campaign exposure and the decrease a result of the lower level of media weight.

**Method**

The evaluation surveys were commissioned by the Commonwealth Department of Health and Aged Care and conducted by the Roy Morgan Research Centre. The results of the benchmark survey in May 1997 (pre-campaign launch)
and the first follow-up in November 1997 (six months after the campaign launch) have already been discussed in Wakefield et al (1999). The second follow-up survey was conducted in November 1998, 18 months after the campaign was launched.

**SAMPLING METHOD AND SAMPLE SIZE**

The surveys were conducted by telephone and the electronic white pages was used as the sampling frame. The sample was selected from each of six states. Australian Capital Territory (ACT) was included with New South Wales (NSW) and Northern Territory (NT) was included with South Australia (SA).

The second follow-up survey was conducted following the same methods as the first follow-up and benchmark surveys. An enumeration survey was conducted to identify the smoking status of all adults in the household and to enable selection of subjects. All participants were asked about their cigarette smoking to confirm categorisation of participants into smokers, recent quitters and others.

A quota sampling method was used which aimed to generate 75% of the sample as smokers (those who smoke on a weekly basis) or recent quitters (defined as those who have, over the past year, stopped smoking cigarettes on a weekly basis), and the remainder were non-smokers. However, there was a small minority of the sample who were occasional smokers (six in the benchmark, 25 in the first follow-up and 15 in the second follow-up) and did not fall into either of the former two categories.

Table 2.1 shows that at the second follow-up, 11,153 people aged 18 years or older answered the telephone (informants) and provided information about themselves and those who lived in their household. These informants reported on a total of 23,319 adult residents (enumerated sample) in the households that were telephoned. Only those aged 18–40 years were eligible to progress to the complete interview as survey respondents. In total, 1,646 full interviews were conducted with the main survey target group of smokers and recent quitters.

Table 2.2 shows the demographic characteristics of the sub-sample of smokers and recent quitters of the respondent survey for all three evaluation surveys. At the second follow-up, there were more female smokers and recent quitters and more

---

1 Defined as those who have never smoked or quit smoking more than a year ago.
TABLE 2.1  
SAMPLE SIZE OF BENCHMARK AND FOLLOW-UP SURVEYS

<table>
<thead>
<tr>
<th>Number of people sampled</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informants aged 18+ years</td>
<td>6,632</td>
<td>17,572</td>
<td>11,153</td>
</tr>
<tr>
<td>Total household enumeration aged 18+ years</td>
<td>13,807</td>
<td>36,538</td>
<td>23,319</td>
</tr>
<tr>
<td>Survey respondents 18–40 years</td>
<td>1,979</td>
<td>4,197</td>
<td>2,289</td>
</tr>
<tr>
<td>Non-smoker respondents</td>
<td>781</td>
<td>1,191</td>
<td>628</td>
</tr>
<tr>
<td>Smoker &amp; recent quitter respondents</td>
<td>1,192</td>
<td>2,981</td>
<td>1,646</td>
</tr>
</tbody>
</table>

from the older age group. In terms of educational attainment, there were fewer respondents who had some secondary education and more who had completed secondary school at second follow-up. There was little difference in the work status, occupational status and home language of smokers and recent quitters across all three evaluation surveys. A similar pattern was observed for non-smoker respondents. In general, there were no substantial differences in the demographic characteristics of the survey respondents.

**QUESTIONNAIRE ADMINISTRATION**

The telephone questionnaire included questions about participants’ awareness of advertising about health, recent learning about smoking and health, and agreement and disagreement with a range of opinion statements relating to smoking and health. Participants’ current and future intentions regarding their smoking behaviour were also obtained. Smokers were also requested to provide information about their level of tobacco consumption, brand smoked, where and for how much the last pack of cigarettes had been purchased. For the follow-up surveys, campaign advertising was described to all participants. Those who recognised the campaign advertising were asked for their appraisal of it.

The age and sex of each household member was obtained through the enumeration survey. Additional demographic information was obtained from smokers and recent quitters who progressed to a full interview, including level of educational attainment, language spoken at home, employment status and respondent’s and main income earner’s occupational status.
### TABLE 2.2 DEMOGRAPHIC CHARACTERISTICS OF SMOKERS AND RECENT QUITTERS

<table>
<thead>
<tr>
<th>Smokers and recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47%</td>
<td>48%</td>
<td>44%</td>
</tr>
<tr>
<td>Female</td>
<td>53%</td>
<td>52%</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–29 years</td>
<td>50%</td>
<td>46%</td>
<td>46%</td>
</tr>
<tr>
<td>30–40 years</td>
<td>50%</td>
<td>54%</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Education status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some secondary school</td>
<td>38%</td>
<td>34%</td>
<td>33%</td>
</tr>
<tr>
<td>Completed secondary school</td>
<td>25%</td>
<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td>Some tertiary</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Completed tertiary</td>
<td>21%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Work status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>75%</td>
<td>74%</td>
<td>71%</td>
</tr>
<tr>
<td>Retired/Pensioner</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Student</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Home duties</td>
<td>11%</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Occupational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower blue collar</td>
<td>30%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>Upper blue collar</td>
<td>21%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Lower white collar</td>
<td>33%</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>Upper white collar</td>
<td>16%</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Language spoken at home</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>96%</td>
<td>97%</td>
<td>97%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>
A detailed description of the questionnaire administration can be found in Wakefield et al (1999). The benchmark and first follow-up questionnaires are contained in Appendix 2A of the same publication while the second follow-up questionnaire can be found in Appendix 2A of this volume.

**STATISTICAL METHODS AND PRESENTATION OF DATA**

Relative change in subgroup differences in proportions were analysed using logistic regression analyses, testing for interaction terms. Differences in change in means between subgroups were analysed using analysis of variance, testing for interaction effects. Subgroup differences of interest based on their established relationship to smoking behaviour were sex, age group (18–29 years; 30–40 years), and highest level of educational attainment (completed tertiary; some tertiary; completed secondary; some secondary). Calculations were conducted on weighted data to correct state imbalances in population and smoking proportions but total sample size is maintained at the same level as if unweighted. In the text, reference is made only with respect to statistically significant differences (p < .05). Further details about the statistical methods used can be found in (Wakefield et al, 1999).

Data are presented from the sub-sample of smokers and recent quitters of the respondent survey for all three evaluation surveys. The composition of the benchmark and follow-up samples showed no substantial differences with respect to sex, age group, language spoken at home, employment status, occupational status and main income earner within the household (see Table 2.2).

Discussion of the differences between the benchmark and first follow-up surveys has already been reported in Wakefield et al (1999). This report will thus focus on the findings of the second follow-up with observations made about changes between first and second follow-up surveys and the overall trend from benchmark through to second follow-up. It was anticipated that the effect of the campaign would either be sustained 18 months after the launch or reflect a minimal dip.

**Results**

The results presented here are organised in the following manner. First, recall and recognition of campaign advertising are presented. Then responses that show a
further increase between first and second follow-up surveys are presented. Following from this is a section on responses that show a sustained increase. That is, an increase from benchmark to first follow-up which is sustained at the same level as at second follow-up. The next section presents responses that have shown a decrease. Responses described in this section showed an initial increase from benchmark to first follow-up. However this was not maintained over the longer period with a decline to benchmark levels at second follow-up. Changes in quitting intentions and activity, smoking prevalence and the patterns of price and purchase of cigarettes are then described. Finally, the effect of the campaign on non-smokers is outlined in the last section.

**RECALL AND RECOGNITION OF CAMPAIGN ADVERTISING**

Recall of campaign advertising in the past three months, which is dependent on the reach of the campaign, was expected to decline given the lower media buy in the three months preceding the second follow-up survey.

Table 2.3 shows that at second follow-up, eight out of 10 smokers recalled seeing health advertising within the previous three months. Of course, this result is dependent on the totality of the health advertising in the period, about which we do not have data.

Of those who recalled health advertising, there was a decline in the percentage of those who spontaneously mentioned tobacco advertising at second follow-up (from 57% to 52%) and this is consistent with fewer TARPs prior to the second follow-up. However, comparison between the benchmark (34%) and second follow-up (52%) surveys shows a statistically significant overall increase.

**TABLE 2.3  UNPROMPTED RECALL OF HEALTH ADVERTISING ABOUT TOBACCO**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seen any health advertising in the past three months</td>
<td>74%</td>
<td>82%</td>
<td>81%</td>
</tr>
<tr>
<td>Unprompted recall of anti-tobacco advertising (of those who saw health advertising)</td>
<td>34% (n=885) [25%]</td>
<td>57% (n=2,433) [46%]</td>
<td>52% (n=1,330) [42%]</td>
</tr>
</tbody>
</table>

Page 30  Australia’s National Tobacco Campaign
In the follow-up surveys, prompted recognition of campaign advertising was assessed by reading a standard description which included the campaign slogan “Every cigarette is doing you damage” and asking respondents whether they had seen, read or heard any advertising from this campaign. Those who had were further asked where they had seen the campaign advertising. Recognition of campaign advertising, being a measure affected by the accumulation of campaign exposure was expected to increase or at least be sustained at second follow-up.

Table 2.4 shows that prompted recognition of the campaign advertising was maintained at 87% from first to second follow-up. Among those who recognised the campaign advertising, there were statistically significant increases in those who attributed it to the television component, shopping centre signs and posters in doctors’ waiting rooms.

<table>
<thead>
<tr>
<th>TABLE 2.4 RECOGNITION OF NATIONAL TOBACCO CAMPAIGN ADVERTISING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smokers &amp; recent quitters</strong></td>
</tr>
<tr>
<td>Prompted recognition of campaign advertising (% yes)</td>
</tr>
<tr>
<td>Prompted recognition of where NTC advertising seen (% yes) (of those who saw NTC advertising)</td>
</tr>
<tr>
<td>Television</td>
</tr>
<tr>
<td>Newspaper</td>
</tr>
<tr>
<td>Sides of buses</td>
</tr>
<tr>
<td>TV in doctor’s waiting room</td>
</tr>
<tr>
<td>Shopping centre signs</td>
</tr>
<tr>
<td>Poster in doctors’ waiting rooms</td>
</tr>
</tbody>
</table>

There was almost equal recognition of the campaign by both males and females, participants from all age groups and all categories of educational attainment. Thus, the campaign is highly effective in terms of being remembered by most respondents.
RESPONSES SHOWING FURTHER INCREASES FROM FIRST TO SECOND FOLLOW-UPS

As reported in the first evaluation volume, there were increases on several measures from benchmark to first follow-up. These included increases in feeling bad about being a smoker, encouragement by children to quit, discussing smoking and health at home, using nicotine replacement therapy and reading ‘how to quit’ literature. These measures were expected to increase or at least be sustained at second follow-up due to the accumulation of campaign exposure. Therefore, it is encouraging to note that in Table 2.5, smokers’ responses on these measures showed further increases from first to second follow-up.

Smokers were asked “Do you feel good or bad about being a smoker or do you have mixed feelings?”. Table 2.5 shows that increasingly more smokers felt bad about their smoking, from 29% at benchmark to 36% at second follow-up.

Social support for quitting is an important determinant of cessation (Mermelstein et al, 1983; Coppotelli & Orleans, 1985). Particularly, encouragement by household members to quit is a strong predictor of achieving cessation (Borland et al, 1991). The percentage of smokers’ children encouraging them to quit increased from 15% at benchmark to 18% at second follow-up. From first to second follow-up, there was an increase in the percentage of smokers discussing smoking and health at home (from 36% to 42%). This is consistent with the increase in encouragement from children to quit. The changes in the percentages of encouragement to quit from other household members (parent, sibling, partner/spouse, friend/flatmate and others) were not statistically significant.

The campaign advertising also encouraged smokers to seek help to quit. Table 2.5 shows that from benchmark to second follow-up, there were increases in the percentage of smokers who rang the Quitline (from 2% to 5%), reported using nicotine replacement therapy (from 7% to 15%) and read ‘how to quit’ literature (16% to 24%). These quitting methods were made more available during the campaign period and thus smokers made more use of these specific services. Over-the-counter sales and media advertising of NRT also commenced during this period. Findings in chapter four of this volume indicate that over this period the Call for help advertisement, which was a direct appeal to smokers to seek help to quit by calling the Quitline, contributed to this increase.
TABLE 2.5  
RESPONSES SHOWING FURTHER INCREASES

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings about being a smoker (% feel bad)</td>
<td>29%</td>
<td>32%</td>
<td>36%</td>
</tr>
<tr>
<td>Anyone at home trying to get you to quit in past six months:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>15%</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>Done anything to get help to quit in past six months:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed smoking and health at home</td>
<td>36%</td>
<td>36%</td>
<td>42%</td>
</tr>
<tr>
<td>Rung the Quitline</td>
<td>2%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Used nicotine gum or patches</td>
<td>7%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Read 'how to quit' literature</td>
<td>16%</td>
<td>16%</td>
<td>24%</td>
</tr>
</tbody>
</table>

These findings provide positive evidence that the campaign has continued to exert a positive impact 18 months after the launch. Increasingly, smokers felt bad about their smoking and this has the potential of driving change towards quitting. More children encouraged their parents to quit smoking. There were also increases in seeking help to quit which underlines the importance of the availability of cessation services in conjunction with any anti-smoking campaign.

RESPONSES SHOWING SUSTAINED INCREASES BETWEEN FIRST AND SECOND FOLLOW-UPS

Data from the second follow-up evaluation showed that responses for most of the measures were maintained after an initial increase from benchmark to first follow-up. Although the absolute percentage values may have reflected a decline, these were not statistically significant. The finding that adult smokers’ responses on these measures were sustained in the one-year period from first to second follow-up indicates that the campaign has continued to exert a positive influence. This was consistent with the expectation that these measures, which are affected by the accumulation of campaign exposure, would reflect an increase or be sustained after prolonged exposure to campaign advertising.

Participants were asked a series of questions about their health beliefs and attitudes beginning with the question, “In your opinion, are there any illnesses or
damage to the body caused by smoking?”. Those who said yes were requested to name which illnesses were so caused. Interviewers noted the first mention and then prompted the participant for other illnesses caused by smoking. Table 2.6 shows those conditions where there was an increase at first follow-up, sustained at second follow-up. There was no change in the percentage values for other conditions that were the subject of the campaign advertising including, lung damage and genetic/DNA damage.

**TABLE 2.6 AWARENESS OF ILLNESS AND DAMAGE CAUSED BY SMOKING**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific illness or damage caused by smoking:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blocked blood arteries</td>
<td>9%</td>
<td>13%</td>
<td>12%</td>
</tr>
<tr>
<td>Blocked blood vessels</td>
<td>3%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Any artery illness/damage</td>
<td>26%</td>
<td>32%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Participants were asked if they had learned anything new about the effects of smoking on health in the past six months and if so, to describe what they learned. Table 2.7 shows that the statistically significant increase from benchmark to first follow-up of those who had learned something new was maintained at 23% at second follow-up. Among those who had learned something new, there was no change in the percentage of participants who mentioned “lungs are like sponges”. There was a decline in the percentage of those who mentioned “clogged arteries”, but comparison between the benchmark (7%) and second follow-up (19%) surveys shows a statistically significant overall increase. Since the question was time-bound (past six months) and those who had already learned from earlier phases of the campaign would be included, we should expect a decrease here. Subsequent to the launch of the Brain advertisement in the second phase, 25% of those who had learned something new mentioned at second follow-up that smoking “Causes strokes/clots in the brain”.

*Page 34 Australia’s National Tobacco Campaign*
Participants were asked whether smoking causes particular illnesses. There was no change over time (from benchmark through to second follow-up) for a set of statements drawn from the current pack warnings (lung cancer, heart disease, emphysema and passive smoking). There was already a high level of agreement with these statements at the benchmark survey, reducing the potential for change.

In terms of campaign messages, Table 2.8 shows that from first to second follow-up, eight out of 10 smokers continued to agree that “Every cigarette is doing you damage”. There was no change in the percentage of smokers who felt that smoking causes decay in the lungs. There was a slight decline from first to second follow-up in those who agreed that smoking blocks up arteries with fatty deposits (from 83% to 76%) but there remained a statistically significant difference from the benchmark level (54%).

Two additional statements: “Smoking causes strokes” and “Smoking causes blood clots in the brain” were included in the second follow-up to allow for the effects of the Brain advertisement. Table 2.8 shows that 77% of smokers agreed that smoking causes strokes and 71% agreed that smoking causes blood clots in the brain.
TABLE 2.8  CAMPAIGN-RELATED BELIEFS

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
</table>
| Which is nearest to the truth?  
"Every cigarette is doing you damage" vs "You have to smoke for several years" | | | |
| (% Every cigarette is doing you damage) | 75% | 82% | 81% |
| Smoking causes decay in the lungs (% true) | 93% | 95% | 94% |
| Smoking blocks up arteries with fatty deposits (% true) | 54% | 83% | 76% |
| Smoking causes strokes (% true) | – | – | 77% |
| Smoking causes blood clots in the brain (% true) | – | – | 71% |

In terms of the extent to which smokers personalised the harm that smoking may cause them, Table 2.9 shows that from first to second follow-up, there was little change in belief that smoking had probably already done harm to their body and that they were likely to become ill from smoking.

TABLE 2.9  PERSONAL STATEMENTS ABOUT SMOKING

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
</table>
| Likelihood of becoming ill from smoking  
[smokers only] (% likely) | | | |
| Has smoking already done harm to your body?  
[entire sample] (% probably has) | 45% | 52% | 50% |
| 52% | 57% | 57% |

Smokers who recognised the campaign were asked if it made them more or less likely to quit smoking or made no difference. Recent quitters were asked whether the campaign advertising helped them to stay quit, made it more difficult or had no effect. Table 2.10 shows that five out of 10 smokers continued to indicate that the campaign advertising had made it more likely that they would quit smoking. There was also no statistically significant difference from first to second follow-up in the percentage of recent quitters who felt that the campaign advertising had helped them to stay quit.
Overall, the data show that on most of the measures, smokers’ responses were sustained in the one-year period between the first and second follow-up. Participants’ awareness of specific disease processes and new learning about smoking and health was maintained. Agreement with campaign-related beliefs and personal statements about smoking was also sustained. And smokers and recent quitters continued to attribute encouragement to quit or stay quit to the campaign.

**RESPONSES SHOWING DECREASES BETWEEN FIRST AND SECOND FOLLOW-UPS**

Table 2.11 shows the responses that declined from first to second follow-up bringing it back to pre-campaign levels. As reported in Wakefield et al (1999), these measures showed statistically significant initial increases from benchmark to first follow-up. However, at second follow-up, these percentage values showed a decrease to pre-campaign levels.

Among those who reported acquiring new learning about smoking and health, the percentage of participants who specified that “Every cigarette is doing you damage” decreased from 17% at first follow-up to 10% at second follow-up. It is likely that as the campaign had been in effect for one and a half years, the campaign slogan had become widely accepted and was no longer considered as new learning.

The initial increase in the percentage of those who agreed that smoking causes damage to the genes in lung cells (from 68% to 78%) also dropped back to the pre-campaign level at second follow-up (70%). This is consistent with the reduced
media buy in the months preceding the second follow-up survey and that the *Tumour* advertisement was rarely aired in favour of the *Brain* and *Call for help* advertisements.

At the first follow-up, 64% of participants disagreed that the dangers of smoking had been exaggerated (an increase from 59% at benchmark). However, at the second follow-up the percentage of those who thought so decreased (61%) hence there was no statistically significant difference from the benchmark level.

**TABLE 2.11 RESPONSES SHOWING DECREASES**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What new learning was acquired about smoking and health?</td>
<td>(n=166)</td>
<td>(n=670)</td>
<td>(n=374)</td>
</tr>
<tr>
<td>(of those who learnt something new)</td>
<td>[n=1,192]</td>
<td>[n=2,981]</td>
<td>[n=1,646]</td>
</tr>
<tr>
<td>Every cigarette is doing damage</td>
<td>5% [1%]</td>
<td>17% [4%]</td>
<td>10% [2%]</td>
</tr>
<tr>
<td>Smoking causes damage to the genes in lung cells (% true)</td>
<td>68%</td>
<td>78%</td>
<td>70%</td>
</tr>
<tr>
<td>The dangers of smoking have been exaggerated (% disagree)</td>
<td>59%</td>
<td>64%</td>
<td>61%</td>
</tr>
</tbody>
</table>

Although there were items that showed a decrease from first to second follow-up to that of benchmark levels, these were the exception.

**CHANGE IN QUITTING INTENTIONS AND ACTIVITY**

Change in intention to quit smoking, quit attempts and reported quit rates are examined in the following section.

Smokers who were not seriously planning to quit smoking in the next six months were categorised as being in 'precontemplation'. Smokers who were planning to quit in the next six months were considered as ‘contemplators’ while those who were planning to quit within 30 days were considered as being in the ‘preparation’ stage (Prochaska et al, 1983).

Table 2.12 shows that the decrease in those in precontemplation from benchmark to first follow-up was sustained (at 43%) at second follow-up. The
corresponding increase in those who were in contemplation and preparation was likewise maintained at the same level. There was no statistically significant difference in respondents’ intentions to smoke a year from now.

**TABLE 2.12 INTENTION TO QUIT**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of change [smokers only]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precontemplation</td>
<td>48%</td>
<td>43%</td>
<td>43%</td>
</tr>
<tr>
<td>Contemplation</td>
<td>36%</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>Preparation</td>
<td>16%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Smoking a year from now [entire sample]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will be</td>
<td>35%</td>
<td>33%</td>
<td>36%</td>
</tr>
<tr>
<td>Might or might not</td>
<td>29%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>Will not be</td>
<td>36%</td>
<td>41%</td>
<td>38%</td>
</tr>
</tbody>
</table>

Smokers were asked about their attempts to quit smoking. Table 2.13 shows that the percentage of those who had ever tried to quit or tried to quit in the last month did not change from first to second follow-up. There was a decrease in those who reported trying to quit in the last two weeks bringing the percentage back to the benchmark level of 4%.

**TABLE 2.13 QUITTING ACTIVITY**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever tried to quit smoking</td>
<td>76%</td>
<td>78%</td>
<td>77%</td>
</tr>
<tr>
<td>Tried to quit in the last month</td>
<td>7%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Tried to quit in last two weeks</td>
<td>4%</td>
<td>6%</td>
<td>4%</td>
</tr>
</tbody>
</table>

A quitting activity index, Quindex, was developed which combined data from recent ex-smokers and smokers. It is a summary measure of quitting activity derived from a range of questions relating to smoking prevalence; intention to be a smoker a year from now; intention to quit in the next six months and in the next 30 days;
whether a quit date had been set for the next 10 days; whether a quit attempt was made in the last fortnight; and how long ago ex-smokers quit (Appendix 2C of Wakefield et al, 1999). Scores range from zero to 13 with a higher score indicating more quitting activity.

### TABLE 2.14 QUIT RATES AND QUINDEX SCORES

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark (n=1,192)</th>
<th>Follow-up 1 (n=2,981)</th>
<th>Follow-up 2 (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quit in the last year</td>
<td>8%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>Mean Quindex (sd)</td>
<td>3.62 (2.6)</td>
<td>3.95 (2.8)</td>
<td>3.66 (2.6)</td>
</tr>
</tbody>
</table>

Table 2.14 shows that the one-year quit rate, which had increased from benchmark to first follow-up, decreased at second follow-up back to the benchmark level of 8%. Likewise, the Quindex score also fell to the benchmark level. The decline in the quitting index was greater among those in the highest socioeconomic status group.

### SUMMARY OF RESULTS – SMOKERS AND RECENT QUITTERS

In the preceding sections, participants’ responses on various measures were reported in terms of whether there were further increases, sustained increases or decreases from first to second follow-up. Changes in quitting intentions and activity were also presented. This section presents a summary of the results and provides an overall picture of the impact of the campaign.

In spite of the lower media weight throughout the second phase of the campaign, unprompted recall of the campaign advertising was maintained at second follow-up. This is encouraging since unprompted recall is dependent on recent exposure to campaign advertising. Prompted recognition of the campaign advertising was also maintained at second follow-up. This was expected because recognition is dependent on the accumulation of campaign exposure.

Campaign-attributed encouragement to quit or stay quit is also influenced by the accumulation of campaign exposure. Repeated exposure to campaign advertising would increase smokers’ likelihood of quitting and strengthened recent quitters’ resolve to stay quit. Thus, it is promising that at second follow-up, the
campaign continued to encourage smokers to quit and helped recent quitters to stay quit.

In addition, at second follow-up, there were increases in the number of smokers who sought help to quit by ringing the Quitline, using nicotine replacement therapy and reading 'how to quit' literature. It is likely that the Call for help advertisement contributed to this increase as it portrayed a smoker calling the Quitline. This finding suggests that the accumulation of campaign exposure was effective in encouraging smokers to seek help to quit.

Unprompted awareness of illness and damage caused by smoking was maintained at second follow-up. Respondents continued to mention specific illness or damage processes relating to arterial damage, lung damage and genetic/DNA damage. This is heartening given the lower media weight throughout the second phase of the campaign.

At second follow-up, the number of respondents who reported new learning about the effects of smoking on health was maintained. Seen in the context of a lower media weight in phase two, this suggests that the campaign advertisements continued to provide new information to the target population. The exception to this was the campaign slogan “Every cigarette is doing you damage”. There was a statistically significant decrease in the number of smokers who reported this as new learning. It is likely that the campaign slogan had become widely accepted and thus was no longer considered new learning.

Respondents’ agreement with campaign-related beliefs was maintained at second follow-up. The only exception was a decrease in the number of respondents who thought that smoking causes damage to the genes in lung cells. A prolonged exposure to campaign messages is necessary to influence beliefs. It is thus likely that this decrease was due to the reduced media weight and the fact that the Lung advertisement was rarely aired in phase two. It is encouraging to note that agreement with the remaining campaign-related beliefs was maintained.

There was little change in the number of smokers who thought that smoking had already harmed their body and that they were likely to become ill from smoking from first to second follow-up. This suggests that smokers accepted the campaign messages as personally relevant as reflected in their acknowledgment of personal harm and past damage. This is a good result given the lower media weight in phase two.
An increasing number of smokers felt bad about their smoking. This is quite important as such bad feelings are more likely to encourage quitting. This finding suggests that continued exposure to the campaign has been successful in achieving campaign communication objectives, even at a lower media weight.

There was no change in terms of smokers’ quitting intentions and quit attempts. The increase in the proportions of those who reported being in the contemplation and preparation stages was maintained from first to second follow-up. Likewise, the proportion of those who reported quit attempts was maintained from first to second follow-up. However, the one-year quit rate and Quindex score decreased at second follow-up to the benchmark level.

In summary, the overall impact of the campaign is positive with most measures reflecting a sustained increase. Measures that reflected a decrease were likely to have been affected by the lower media buy in phase two. This suggests that an increase in the media weight may be needed to achieve higher levels of response.

**SMOKING PREVALENCE**

Two measures of smoking prevalence were available, from the informant sub-sample and the enumerated sample of each survey. Data from the informant sub-sample was obtained from informants aged 18 years or older. This related only to their own smoking status. For the enumerated sample, the informant was further asked about the smoking status, sex and age group of every adult member of the household. The household’s main income earner’s occupation was also obtained to code their socioeconomic status (SES).

There were 11,153 informants aged 18 years and older at the second follow-up. After adjustment for sex, age and SES group in a logistic regression analysis, smoking prevalence was lower at second follow-up (21.8%) than at first follow-up (22.0%) as shown in Table 2.15. This decrease was not statistically significant. However, the overall decrease from benchmark to second follow-up was statistically significant. Thus, data from the informant sub-sample show a statistically significant reduction in smoking prevalence by 1.9% over the 18 months since the first launch of the campaign.

The enumerated household sample obtained information from about 23,319 occupants at second follow-up. Adjustments were made for sex, age and SES group via a logistic regression analysis. Table 2.15 shows that smoking prevalence at second...
follow-up (21.8%) was marginally lower than at first follow-up (22.1%). Based on data from the enumerated household sample, smoking prevalence showed a statistically significant reduction by 1.7% over the 18 months since the launch of the campaign.

<table>
<thead>
<tr>
<th>TABLE 2.15</th>
<th>SMOKING PREVALENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enumerated household sample</td>
</tr>
<tr>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Benchmark</td>
<td>23.5</td>
</tr>
<tr>
<td>Follow-up 1</td>
<td>22.1</td>
</tr>
<tr>
<td>Follow-up 2</td>
<td>21.8</td>
</tr>
<tr>
<td>p&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>

Although the difference in the smoking prevalence between the first and second follow-up surveys was not statistically significant based on the enumerated and informant samples, the downward trend has been maintained. Moreover, the overall decrease from benchmark to second follow-up was statistically significant.

In summary, the data on smoking prevalence show that the initial positive effect of the campaign from benchmark to first follow-up has been maintained at second follow-up. An average reduction in smoking prevalence by 1.8% was observed based on data from the informant sub-sample and the enumerated household sample.

**PRICE AND PURCHASE OF CIGARETTES**

It is known that an increase in the real price of cigarettes can potentially reduce tobacco consumption (Townsend, 1988; Andrews & Franke, 1991; Department of Health, 1994). Aside from quitting smoking completely, smokers can adopt several methods to minimise a price increase. They could reduce their cigarette consumption by smoking fewer cigarettes per day or moving to non-daily smoking. Other strategies that could be used include: buying cigarettes in bulk (moving from a pack to a carton), buying cigarettes at a cheaper retail outlet, changing to a larger pack size (cheaper per stick), changing to a cheaper brand, or changing to a cheaper form of tobacco such as roll-your-own cigarettes. Thus, it was
important to consider the possible impact of any price increase of cigarettes in order to evaluate whether any change in smoking behaviour can be associated with the campaign.

Firstly, smokers who smoked at least weekly were asked about their smoking rate. Table 2.16 shows no statistically significant change in the pattern of consumption among smokers from benchmark through to second follow-up. There was no change in the mean number of cigarettes smoked daily for both daily and weekly smokers. There was also no change in the percentage of heavy smokers.

### TABLE 2.16 REPORTED CIGARETTE CONSUMPTION

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>For daily smokers:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean cigs/day (sd)</td>
<td>(n=799)</td>
<td>17.6 (9.9)</td>
<td>18.3 (10.5)</td>
</tr>
<tr>
<td>% heavy smokers (25+)</td>
<td>25%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>For weekly smokers:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean cigs/day (sd)</td>
<td>(n=81)</td>
<td>5.0 (4.0)</td>
<td>5.1 (5.2)</td>
</tr>
<tr>
<td>Mean days smoked per week (sd)</td>
<td>3.2 (1.1)</td>
<td>3.2 (1.5)</td>
<td>3.0 (1.3)</td>
</tr>
<tr>
<td>For daily and weekly smokers:</td>
<td>(n=879)</td>
<td>16.4 (10.2)</td>
<td>16.9 (10.9)</td>
</tr>
<tr>
<td>Mean cigs/day (sd)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average reported price paid for cigarettes was obtained by asking those who smoked at least weekly the cost of the pack or carton they last bought. Table 2.17 shows the mean price paid for packs and cartons, the mean cost per stick and the mean cost of buying cigarettes per day. There were statistically significant increases in the mean price paid for a pack of cigarettes and in the mean cost per stick from benchmark through to second follow-up. But there were no changes in the mean price paid for a carton of cigarettes and in the cost of buying cigarettes per day.

In order to minimise any price increases in cigarettes, smokers have the option of purchasing their cigarettes from a cheaper retail outlet. Cigarette smokers who smoked at least weekly were asked, “Thinking about the pack that you are using now, what sort of shop was it bought at?”. Table 2.18 shows that there were continuing increases in the percentage of smokers who bought cigarettes in
TABLE 2.17 REPORTED PRICE PAID FOR CIGARETTES

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean cost of pack (sd)</td>
<td>$6.93 (1.36)</td>
<td>$7.03 (1.43)</td>
<td>$7.32 (1.50)</td>
</tr>
<tr>
<td>Mean cost of carton (sd)</td>
<td>$38.96 (7.07)</td>
<td>$37.84 (7.82)</td>
<td>$38.84 (8.17)</td>
</tr>
<tr>
<td>Mean cost in cents per stick (sd)</td>
<td>22.6 (3.8)</td>
<td>23.0 (3.8)</td>
<td>23.8 (4.1)</td>
</tr>
<tr>
<td>Mean cost per day (sd)</td>
<td>$3.45 (2.32)</td>
<td>$3.56 (2.49)</td>
<td>$3.55 (2.27)</td>
</tr>
</tbody>
</table>

supermarkets and from newsagents and concurrent declines in the percentage of smokers who bought cigarettes in petrol stations and convenience stores. This finding is consistent with the price analysis in chapter five of this volume, which found that supermarkets were more likely than any other sort of outlet to engage in price discounting and petrol stations were the only outlet type where the average actual retail price was greater than the recommended retail price.

TABLE 2.18 RETAIL OUTLET AT WHICH CIGARETTES PURCHASED

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=949)</th>
<th>Follow-up 1 (n=2,220)</th>
<th>Follow-up 2 (n=1,261)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop where bought pack or carton using now [smokers only]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supermarket</td>
<td>38%</td>
<td>43%</td>
<td>45%</td>
</tr>
<tr>
<td>Milkbar / delicatessen</td>
<td>14%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Petrol / service station</td>
<td>17%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Convenience store</td>
<td>11%</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Specialist tobacconist</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Hotel / club / restaurant</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Vending machine</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Newsagent news stand</td>
<td>5%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Liquor store</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Somewhere else</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Can’t say</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Another method smokers could use to minimise the effect of a price increase is to change to smoking cigarettes from larger packs. Smokers who smoked at least
weekly were asked about the pack size they were currently smoking. Table 2.19 shows that there was a decrease in smokers using packs of 25 and a corresponding increase towards packs of 30 and 40. These changes were statistically significant. However, there was also an equal migration to smaller packs of 20 which could explain the increase in the cost per stick.

**TABLE 2.19  CURRENT PACK SIZE**

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=927)</th>
<th>Follow-up 1 (n=2,176)</th>
<th>Follow-up 2 (n=1,231)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pack size using now [pack or carton]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>6%</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>25</td>
<td>40%</td>
<td>44%</td>
<td>38%</td>
</tr>
<tr>
<td>30</td>
<td>24%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>35</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>40</td>
<td>15%</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>50</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Cigarettes of the same pack size within the same brand are called ‘brand sisters’. These are sold at the same price. Therefore, the numbers of smokers who reported using each ‘brand sister’ were aggregated to calculate the mean price paid for a pack of cigarettes. From benchmark through to the second follow-up, the reported price paid for every brand was lower than the recommended retail price as published in the Australian Retail Tobacconist in May and November 1997 and November 1998. This is consistent with the findings on price analysis in chapter five.

In November 1998, at the time of the second follow-up survey, the mean recommended retail price for 16 published brands was $8.00 compared with $7.72 at first follow-up – an approximate 30 cent increase. The reported mean price paid for the same 16 brands was $7.07 and $7.34 for the first and second follow-up respectively – an approximate 30 cent increase as well. The reported price paid at first follow-up was 9% lower than the recommended retail price, while at second follow-up it was 8% lower. This suggests that there was price discounting during the campaign period. An alternative or additional explanation is the migration towards purchasing cigarettes from cheaper retail outlets. Thus, the increase in the recommended retail price was not fully passed on to consumers.
Table 2.20 shows that in most instances, from benchmark to first follow-up, there was little variation in the price paid for each brand sister. However, from first to second follow-up, there were statistically significant increases in the price paid for half the brands listed: Alpine 25s, Benson and Hedges 25s, Dunhill 25s, Winfield 25s, Freedom 30s, Peter Jackson 30s, Longbeach 40s and Horizon 50s. The only brand that showed a statistically significant decrease in the price paid was Holiday 50s. The findings on price analysis in chapter five also found that Holiday 50s had the largest amount of discounting at 10.1%.

TABLE 2.20 MARKET SHARE AND REPORTED PRICE PAID FOR INDIVIDUAL CIGARETTE PACKS

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=798)</th>
<th>Mean cost (sd)</th>
<th>Follow-up 1 (n=1,864)</th>
<th>Mean cost (sd)</th>
<th>Follow-up 2 (n=1,035)</th>
<th>Mean cost (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand smoking now [pack purchasers only]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-B&amp;H 25s</td>
<td>12%</td>
<td>6.39 (0.5)</td>
<td>11%</td>
<td>6.56 (0.5)</td>
<td>11%</td>
<td>6.87 (0.4)</td>
</tr>
<tr>
<td>3-Wills 35s</td>
<td>1%</td>
<td>7.17 (1.0)</td>
<td>&lt; 1%</td>
<td>7.37 (0.8)</td>
<td>1%</td>
<td>7.13 (0.6)</td>
</tr>
<tr>
<td>4-Horizon 50s</td>
<td>9%</td>
<td>8.98 (1.7)</td>
<td>8%</td>
<td>9.63 (1.3)</td>
<td>8%</td>
<td>10.12 (1.1)</td>
</tr>
<tr>
<td>5-Escort 35s</td>
<td>2%</td>
<td>7.28 (0.5)</td>
<td>2%</td>
<td>7.48 (0.6)</td>
<td>2%</td>
<td>7.72 (0.6)</td>
</tr>
<tr>
<td>8-Stradbroke 40s</td>
<td>2%</td>
<td>7.83 (0.6)</td>
<td>1%</td>
<td>8.05 (0.7)</td>
<td>2%</td>
<td>8.11 (0.5)</td>
</tr>
<tr>
<td>9-Alpine 25s</td>
<td>2%</td>
<td>6.21 (0.4)</td>
<td>4%</td>
<td>6.10 (0.5)</td>
<td>4%</td>
<td>6.57 (0.5)</td>
</tr>
<tr>
<td>10-Longbeach 40s</td>
<td>12%</td>
<td>7.76 (1.1)</td>
<td>13%</td>
<td>8.11 (1.0)</td>
<td>14%</td>
<td>8.48 (0.8)</td>
</tr>
<tr>
<td>12-Marlboro 25s</td>
<td>2%</td>
<td>5.99 (0.7)</td>
<td>2%</td>
<td>5.86 (0.6)</td>
<td>1%</td>
<td>6.29 (0.4)</td>
</tr>
<tr>
<td>14-Peter Jackson 30s</td>
<td>18%</td>
<td>6.80 (0.6)</td>
<td>17%</td>
<td>6.84 (0.6)</td>
<td>18%</td>
<td>7.04 (0.8)</td>
</tr>
<tr>
<td>20-Stuyvesant 20s</td>
<td>2%</td>
<td>6.00 (0.7)</td>
<td>2%</td>
<td>5.76 (0.3)</td>
<td>2%</td>
<td>6.02 (0.4)</td>
</tr>
<tr>
<td>21-Winfield 25s</td>
<td>16%</td>
<td>6.15 (0.6)</td>
<td>20%</td>
<td>6.28 (0.7)</td>
<td>18%</td>
<td>6.59 (0.5)</td>
</tr>
<tr>
<td>22-Dunhill 25s</td>
<td>6%</td>
<td>6.50 (0.4)</td>
<td>5%</td>
<td>6.58 (0.4)</td>
<td>4%</td>
<td>6.93 (0.5)</td>
</tr>
<tr>
<td>24-Holiday 50s</td>
<td>4%</td>
<td>9.18 (0.6)</td>
<td>5%</td>
<td>8.52 (1.7)</td>
<td>4%</td>
<td>8.10 (2.3)</td>
</tr>
<tr>
<td>28-St Moritz 25s</td>
<td>&lt; 1%</td>
<td>6.47 (0.6)</td>
<td>1%</td>
<td>6.77 (0.4)</td>
<td>&lt; 1%</td>
<td>6.77 (0.5)</td>
</tr>
<tr>
<td>29-Brandon 40s</td>
<td>1%</td>
<td>7.27 (0.5)</td>
<td>&lt; 1%</td>
<td>7.41 (0.4)</td>
<td>1%</td>
<td>7.92 (0.7)</td>
</tr>
<tr>
<td>30-Freedom 30s</td>
<td>1%</td>
<td>5.43 (0.3)</td>
<td>&lt; 1%</td>
<td>5.87 (0.8)</td>
<td>1%</td>
<td>6.83 (0.7)</td>
</tr>
</tbody>
</table>
Table 2.21 shows a comparison between respondents’ reported price paid for packs of cigarettes and the observed price from the findings of chapter five. Only brands common to both surveys were included for analysis. There were statistically significant differences between respondents’ reported price paid and the observed price for three brands throughout the period from benchmark to second follow-up. The three brands were of larger pack sizes, namely, Horizon 50s, Holiday 50s and Longbeach 40s, with Holiday 50s showing the largest difference. Statistically significant differences were also noted in November 1997 and November 1998 between the reported and observed price paid for a pack of Peter Jackson 30s. In general, reported prices paid for cigarette packs were lower than observed prices. This is consistent with the finding that respondents purchased cigarettes from cheaper retail outlets.

### TABLE 2.21

<table>
<thead>
<tr>
<th>Brands</th>
<th>Benchmark – May 97</th>
<th>Follow-up 1 – Nov 97</th>
<th>Follow-up 2 – Nov 98</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reported</td>
<td>Observed</td>
<td>Reported</td>
</tr>
<tr>
<td>B&amp;H 25s</td>
<td>6.39 (0.5)</td>
<td>6.39 (0.4)</td>
<td>6.56 (0.5)</td>
</tr>
<tr>
<td>Horizon 50s</td>
<td>8.98 (1.7)</td>
<td>9.87 (0.6)</td>
<td>9.63 (1.3)</td>
</tr>
<tr>
<td>Escort 35s</td>
<td>7.28 (0.5)</td>
<td>7.33 (0.5)</td>
<td>7.48 (0.6)</td>
</tr>
<tr>
<td>Longbeach 40s</td>
<td>7.76 (1.1)</td>
<td>8.04 (0.7)</td>
<td>8.11 (1.0)</td>
</tr>
<tr>
<td>Peter Jackson 30s</td>
<td>6.80 (0.6)</td>
<td>6.79 (0.5)</td>
<td>6.84 (0.6)</td>
</tr>
<tr>
<td>Winfield 25s</td>
<td>6.15 (0.6)</td>
<td>6.16 (0.5)</td>
<td>6.28 (0.7)</td>
</tr>
<tr>
<td>Holiday 50s</td>
<td>9.18 (0.6)</td>
<td>8.68 (0.8)</td>
<td>8.52 (1.7)</td>
</tr>
</tbody>
</table>

The reported price paid for purchases in a carton varied little over the time period from benchmark to second follow-up as shown in Table 2.22.

Table 2.23 shows the comparison between respondents’ reported price paid and the observed price of cartons (from chapter five). Larger differences between the reported and observed price paid for carton purchases were noted as compared to the price of packs. Benson and Hedges 200s was the only brand which showed a statistically significant difference in respondents’ reported price paid and the
TABLE 2.22 MARKET SHARE AND REPORTED PRICE PAID FOR CARTONS

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=118)</th>
<th>Mean cost (sd)</th>
<th>Follow-up 1 (n=268)</th>
<th>Mean cost (sd)</th>
<th>Follow-up 2 (n=158)</th>
<th>Mean cost (sd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand smoking now [pack purchasers only]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2–B&amp;H 25s</td>
<td>13%</td>
<td>42.53 (4.4)</td>
<td>8%</td>
<td>43.62 (8.9)</td>
<td>7%</td>
<td>39.43 (12.9)</td>
</tr>
<tr>
<td>4–Horizon 50s</td>
<td>14%</td>
<td>36.36 (1.2)</td>
<td>10%</td>
<td>36.93 (2.6)</td>
<td>15%</td>
<td>37.22 (3.3)</td>
</tr>
<tr>
<td>5–Escort 35s</td>
<td>1%</td>
<td>40.25 (0.8)</td>
<td>1%</td>
<td>40.63 (2.3)</td>
<td>1%</td>
<td>43.50 (5.3)</td>
</tr>
<tr>
<td>6–Horizon 30s</td>
<td>1%</td>
<td>26.98 (0.1)</td>
<td>2%</td>
<td>27.66 (2.1)</td>
<td>1%</td>
<td>32.40 (5.7)</td>
</tr>
<tr>
<td>9–Alpine 25s</td>
<td>5%</td>
<td>45.00 (0.0)</td>
<td>5%</td>
<td>43.12 (8.8)</td>
<td>3%</td>
<td>33.00 (19.3)</td>
</tr>
<tr>
<td>10–Longbeach 40s</td>
<td>22%</td>
<td>36.33 (2.6)</td>
<td>23%</td>
<td>36.12 (4.3)</td>
<td>27%</td>
<td>38.16 (5.5)</td>
</tr>
<tr>
<td>14–Peter Jackson 30s</td>
<td>11%</td>
<td>41.18 (8.5)</td>
<td>11%</td>
<td>40.48 (8.8)</td>
<td>15%</td>
<td>43.36 (5.1)</td>
</tr>
<tr>
<td>21–Winfield 25s</td>
<td>15%</td>
<td>43.41 (5.4)</td>
<td>16%</td>
<td>42.79 (6.4)</td>
<td>14%</td>
<td>46.80 (3.8)</td>
</tr>
<tr>
<td>22–Dunhill 25s</td>
<td>5%</td>
<td>48.24 (2.1)</td>
<td>2%</td>
<td>46.82 (1.4)</td>
<td>1%</td>
<td>43.36 (6.5)</td>
</tr>
<tr>
<td>24–Holiday 50s</td>
<td>6%</td>
<td>33.71 (1.6)</td>
<td>11%</td>
<td>31.88 (4.9)</td>
<td>8%</td>
<td>35.05 (3.1)</td>
</tr>
<tr>
<td>29–Brandon 40s</td>
<td>2%</td>
<td>27.74 (1.4)</td>
<td>1%</td>
<td>28.40 (1.9)</td>
<td>1%</td>
<td>31.00 (0.0)</td>
</tr>
<tr>
<td>30–Freedom 30s</td>
<td>3%</td>
<td>21.04 (1.7)</td>
<td>1%</td>
<td>21.43 (0.6)</td>
<td>&lt; 1%</td>
<td>24.95 (0.0)</td>
</tr>
</tbody>
</table>

Observed price from benchmark to second follow-up. Statistically significant differences were also observed in November 1997 and November 1998 for the following brands: Horizon 200s, Longbeach 200s, Peter Jackson 210s and Winfield 200s. The observed prices of cartons were consistently higher than the reported prices paid by respondents.

A third strategy smokers could have used to minimise a price increase would be to change to other types of tobacco. Table 2.24 shows that there was no statistically significant change in the percentages of those who had smoked cigars, pipes and roll-your-own cigarettes at second follow-up.
TABLE 2.23 COMPARISON BETWEEN REPORTED AND OBSERVED PRICES FOR CARTONS

<table>
<thead>
<tr>
<th>Brands</th>
<th>Benchmark – May 97</th>
<th>Follow-up 1 – Nov 97</th>
<th>Follow-up 2 – Nov 98</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reported</td>
<td>Observed</td>
<td>Reported</td>
</tr>
<tr>
<td>B&amp;H 200s</td>
<td>42.53 (1.1)</td>
<td>46.43 (1.7)</td>
<td>43.62 (8.9)</td>
</tr>
<tr>
<td>Horizon 200s</td>
<td>36.36 (1.2)</td>
<td>36.50 (1.2)</td>
<td>39.93 (2.6)</td>
</tr>
<tr>
<td>Escort 210s</td>
<td>40.25 (0.8)</td>
<td>40.38 (0.7)</td>
<td>40.63 (2.3)</td>
</tr>
<tr>
<td>Longbeach 200s</td>
<td>36.33 (2.6)</td>
<td>36.77 (1.1)</td>
<td>36.12 (4.3)</td>
</tr>
<tr>
<td>Peter Jackson 210s</td>
<td>41.18 (8.5)</td>
<td>43.23 (1.7)</td>
<td>40.48 (8.8)</td>
</tr>
<tr>
<td>Winfield 200s</td>
<td>43.41 (5.4)</td>
<td>43.97 (1.8)</td>
<td>42.79 (6.4)</td>
</tr>
</tbody>
</table>

TABLE 2.24 SMOKERS WHO SMOKED CIGARS, PIPES AND ROLL-YOUR-OWN CIGARETTES

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=1,094)</th>
<th>Follow-up 1 (n=2,642)</th>
<th>Follow-up 2 (n=1,513)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigar smokers</td>
<td>19%</td>
<td>19%</td>
<td>21%</td>
</tr>
<tr>
<td>Pipe smokers</td>
<td>3%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Roll-your-own</td>
<td>13%</td>
<td>16%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Overall, the data on price and purchase patterns suggest that there was a similar increase in the recommended retail price of cigarettes and the reported price paid by approximately 30 cents from first to second follow-up. The data also indicate the likelihood that the price increase was minimised by purchasing cigarettes from cheaper retail outlets such as supermarkets, by switching to larger packs and to cheaper brands. There was no change in the number of cigarettes reportedly smoked each day or each week. Thus, it appears that among those smokers who continued to smoke, they found cheaper ways of accessing cigarettes rather than reducing consumption. This is also supported by the findings on price analysis in chapter five. The similarity between the reported price paid and the observed price of cigarette packs is an indication of the validity of respondents’ self-report. However, there was greater variation in the reported and observed prices of carton purchases.
Thus, the findings support the conclusion that there was not enough change in the reported price paid for cigarettes to account for the observed decline in smoking prevalence.

**EFFECT OF THE CAMPAIGN ON NON-SMOKERS**

Table 2.25 shows the unprompted recall of advertising about health for non-smokers. There was a statistically significant increase from 73% at first follow-up to 78% at second follow-up. However, among those who recalled seeing any health advertising, there was no change in the percentage of non-smokers who mentioned anti-tobacco advertising in an unprompted fashion.

**TABLE 2.25 RECALL OF ANTI-SMOKING ADVERTISING BY NON-SMOKERS**

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=781)</th>
<th>Follow-up 1 (n=1,191)</th>
<th>Follow-up 2 (n=628)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seen any health advertising in the past three months [entire sample]</td>
<td>73%</td>
<td>73%</td>
<td>78%</td>
</tr>
<tr>
<td>Unprompted recall of anti-tobacco advertising (of those who saw health advertising) [entire sample]</td>
<td>20% (n=569) [14%]</td>
<td>41% (n=869) [30%]</td>
<td>40% (n=489) [31%]</td>
</tr>
</tbody>
</table>

When the campaign advertising was described, there was a slight increase in the number of non-smokers who reported seeing the campaign advertising, from 83% at first follow-up to 86% at second follow-up. Of non-smokers who recognised the campaign advertising, 64% at first follow-up thought that it would help smokers quit and/or recent ex-smokers stay off cigarettes. There was a statistically significant increase in the number of non-smokers (70%) who thought so at second follow-up. Possibly, non-smokers were noticing the *Call for help* advertisement and/or more had seen smokers of the acquaintance being helped by the campaign.

Table 2.26 shows the responses of non-smokers in terms of their level of agreement with statements about smoking and health. This pattern of results was similar to the responses of smokers and recent quitters. There was an explicable decline in the percentage of non-smokers who reported learning something new about smoking and health between first and second follow-up, such that there was no statistically significant difference from the benchmark level. The percentage of non-smokers who believed that smoking blocks arteries also decreased from 83% at
first follow-up to 73% at second follow-up. However, this was still significantly more than the benchmark level (49%). Agreement with statements about smoking and health and campaign-related beliefs generally did not show much change throughout the campaign period.

**TABLE 2.26 RESPONSE OF NON-SMOKERS ON SELECTED QUESTIONS**

<table>
<thead>
<tr>
<th>At least weekly smokers</th>
<th>Benchmark (n=781)</th>
<th>Follow-up 1 (n=1,191)</th>
<th>Follow-up 2 (n=628)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learned anything new about smoking and health in past six months (% yes)</td>
<td>17%</td>
<td>24%</td>
<td>20%</td>
</tr>
<tr>
<td>Smoking causes lung cancer (% agree)</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
</tr>
<tr>
<td>Smoking causes heart disease (% agree)</td>
<td>88%</td>
<td>94%</td>
<td>91%</td>
</tr>
<tr>
<td>Your smoking can harm others (% agree)</td>
<td>96%</td>
<td>97%</td>
<td>96%</td>
</tr>
<tr>
<td>Smoking causes emphysema (% agree)</td>
<td>90%</td>
<td>90%</td>
<td>92%</td>
</tr>
<tr>
<td>The dangers of smoking have been exaggerated (% disagree)</td>
<td>89%</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>Smoking can’t be all that bad because many people smoke all their lives and live to a ripe old age (% disagree)</td>
<td>87%</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>Smoking the occasional cigarette doesn’t cause any damage to your health (% disagree)</td>
<td>75%</td>
<td>78%</td>
<td>76%</td>
</tr>
<tr>
<td>Which is nearest to the truth? “Every cigarette is doing you damage” vs “You have to smoke for several years to do any damage to your health” (% Every cigarette is doing you damage)</td>
<td>89%</td>
<td>91%</td>
<td>92%</td>
</tr>
<tr>
<td>Smoking cause decay in the lungs (% true)</td>
<td>97%</td>
<td>98%</td>
<td>97%</td>
</tr>
<tr>
<td>Smoking blocks up arteries with fatty deposits (% true)</td>
<td>49%</td>
<td>83%</td>
<td>73%</td>
</tr>
<tr>
<td>Smoking causes damage to genes in lung cells (% true)</td>
<td>72%</td>
<td>76%</td>
<td>71%</td>
</tr>
<tr>
<td>Smoking causes strokes (% true)</td>
<td>–</td>
<td>–</td>
<td>81%</td>
</tr>
<tr>
<td>Smoking causes blood clots in the brain (% true)</td>
<td>–</td>
<td>–</td>
<td>74%</td>
</tr>
</tbody>
</table>

There was little change from benchmark (97%) through to second follow-up (96%) in the percentage of non-smokers who thought that, a year from now, they probably or definitely would not be smoking.
In general, the data show that non-smokers saw and remembered the campaign advertising and there was a similar pattern of responses between smokers and recent quitters and non-smokers. Non-smokers also continued to perceive that it was unlikely they would take up smoking a year from now. Therefore, it is unlikely that the campaign could have caused any adverse effects on non-smokers.

**Conclusion**

The results of the three evaluation surveys provide convincing evidence that the National Tobacco Campaign has achieved its objective of encouraging smokers to quit. The findings of the second follow-up survey, conducted one year after the first follow-up, show that smokers’ favourable responses for most of the variables were sustained overall. It is important to note that these findings were in the context of a reduced media investment in media activity.

The campaign advertising continued to be well recognised by smokers. It was also effective in making smokers think about quitting. Smokers continued to acquire new learning; and positive attitudes, beliefs and awareness about smoking and health issues were maintained. Increasingly more smokers felt bad about being a smoker and more smokers also sought help with quitting. In general, these effects applied equally to males and females, older and younger participants and those from all levels of educational attainment. Data obtained from both the informant sub-sample and the enumerated household sample reflected a maintained reduction in smoking prevalence. This overall reduction in smoking prevalence of about 1.8% over the 18 months from benchmark to second follow-up was statistically significant. This at the very least indicates that the reduction in prevalence reported at the first follow-up was not a chance finding.

Of some concern is the fact that quit rates and Quindex scores decreased back to benchmark level. And there was no further advancement of smokers through the stages of change. So it seems unlikely that further reductions in prevalence are ‘incubating’ among smokers. Nevertheless, these results taken together are encouraging given that at the time of the second follow-up, the campaign had been in operation for one and a half years but had been scaled down. These results highlight the desirability of increasing media spend and/or introducing new creative material.
References


APPENDIX 2A

SECOND FOLLOW-UP TELEPHONE SURVEY
A HOUSEHOLD ENUMERATION

INTRODUCTION

Hello, my name is .................... from Roy Morgan Research, the people who conduct the Morgan Gallop Poll. I am ringing to conduct a survey on some health issues. I need to speak to someone in your household aged 18 years or older. (Ensure respondent is 18 or older. If <18, get someone >18.)

Roy Morgan Research is conducting some research on behalf of the government looking at health issues. Please be assured that any information you give us will be strictly confidential. The questions we would like to ask will only take three or four minutes to answer. Is it convenient to talk now or would you like to make an appointment?

UNBIASED CAMPAIGN SALIENCE

Q1 During the past three months have you seen or heard advertising campaigns on TV, radio, in the newspaper or anywhere else, encouraging people to do things to improve their health?

Q2 What was the advertising campaign(s) about? (Prompt exhaustively.)

Explain and obtain household enumeration

I will now ask you some questions about who lives in your household. I would like to reassure you that your telephone number has been drawn randomly from the .............. telephone directory and that any information you provide me will be strictly confidential and will be used for statistical purposes only.

We are discussing issues that may affect the whole family or household, so I would like to start by getting some details about the people who live at your place. Just to make sure we include everyone, I need to record the age, first name or nickname and sex of every one living in your household, including yourself and anyone who normally lives there but is temporarily away.

Q3 First of all, including yourself, what is the total number of people in your household?

Q4a Would you mind telling me your approximate age?

Q5a Do you smoke cigarettes on at least a weekly basis?

If No/Can’t say:

Q5aa Did you stop smoking cigarettes on a weekly basis more than one year ago, less than one year ago or have you never smoked on a weekly basis?

Q6a Record sex of respondent

Q7a What is your first name or nickname?
If more than one person in household:

Now thinking about the other household members,

Q4b What is the age of the oldest person (excluding yourself) living in your household?

If aged 18 years or over:

Q5b Does this person smoke cigarettes on at least a weekly basis?

If No/Can’t say:

Q5bb Did this person stop smoking cigarettes on a weekly basis more than one year ago, less than one year ago or have they never smoked on a weekly basis?

Q6b Is this person male or female?

Q7b What is his/her first name or nickname?

If three or more people in household ask:

Q4c What is the age of the second oldest person (excluding yourself) living in your household?

Continues up to 14th person living in household ie:

<table>
<thead>
<tr>
<th>How old is (he/she)? (AGE)</th>
<th>What is (his/her) first name?</th>
<th>Is this person male or female? (SEX)</th>
<th>Weekly smoker</th>
<th>Quit last year</th>
<th>Not smoked last year</th>
<th>Never smoked</th>
</tr>
</thead>
</table>

Enter age as 1 for everyone under one year

HOUSEHOLD LANGUAGE AND OCCUPATIONAL STATUS

Q9 What language do the adult(s) in your household speak most of the time when they are at home?

Q10 What is the main income earner’s occupation? (Allow multiple responses.)

POSTCODE (AND SPIEL TO REASSURE ABOUT PRIVACY)
Because we rang your phone number at random, without knowing the address, I’d like to record just the postcode where you live, so we can look at results by each geographic area.

**Q10a** Can you please tell me the postcode of your address?

**B INDIVIDUAL INTERVIEW**

*Selecting 75% weekly smokers or quit in last year and 25% other respondents.*

*Define rules for identifying target respondent(s) from this household.*

Thank you very much. For the purposes of this survey I now need to randomly select someone in your household over the age of 18 from the list you gave me earlier and ask them some more detailed questions.

Thank you for your time and assistance. May I please speak to ...........?

*Continue to request household members or make appointment to call back.*

**END OF SCREENER INTERVIEW**

**OVERALL CAMPAIGN SALIENCE**

*Ask of all except person who completed screener.*

**Q11** During the last three months, have you seen or heard any advertising campaign(s) on TV, radio, in the newspaper or anywhere else encouraging people to do things to improve their health?

**Q12** What were the advertising campaign(s) about? *(Prompt exhaustively.)*

**SALIENCE OF HEALTH EFFECTS**

**Q14** In your opinion, are there any illnesses caused by smoking?

YES 1
NO 2 (Go to Q16)

IF YES:

**Q15** Which illnesses are caused by smoking cigarettes? *(Do not aid.)*

Asthma
Blocked arteries
Blocked blood vessels
Blood pressure
Bronchitis
Cancer (unspecified)
Lung cancer
Throat cancer
Circulatory problems
Circulatory disease
Cough
Emphysema
Flu/Colds
Genetic damage / DNA damage
Heart disease
Lung damage / Kills lung cells
Pregnancy complications
Premature ageing
Reduced fitness
Respiratory diseases
Stroke/Vascular disease
Ulcers
Wrinkles
Clots in the brain
Other (specify):
None
Can’t say

Q15a  What else? Anything else? (Prompt exhaustively.)

Highlight first mentioned only, then circle all others mentioned.

Q16  In your opinion, are there any other forms of damage to the body caused by smoking?

Yes 1
No 2 (Go to Q18)

Q17  What damage is caused to the body by smoking?

Add to list above if illnesses and damages mentioned, so post prompt can be distinguished from those pre-prompt.

Q17a  What else? Anything else? (Prompt exhaustively.)

SMOKING BEHAVIOUR

Q18  Do you now smoke cigarettes daily, at least weekly, less often than weekly, or not at all?

If ‘at least weekly’ go to Q20.
Q19  Have you ever smoked cigarettes on at least a weekly basis?

If no – ineligible if in smoker fraction, go to Q27.
If ever smoked:

Q20  Approximately how many years ago did you start smoking regularly?

Record in years (less than 1 year, record 0).
If current smoker, go to Q22.
If no longer smokes:

Q21  Did you stop smoking cigarettes (on a weekly basis) more or less than one year ago?

Q21a  Approximately how many weeks/years ago did you stop smoking (on a weekly basis)?

Record in weeks to 1 year, then in years (for non-smoker subset).
If greater than 1 year ineligible if in smoker fraction.
All quitters go to Q27.

FEELINGS ABOUT SMOKING

Q22  Do you feel good or bad about being a smoker, or do you have mixed feelings?

If good/bad:

Is that very or somewhat?

If mixed feelings:

Is that more good, more bad, or equal?

STAGE OF CHANGE / PERSONAL AGENCY / URGENCY TO QUIT

Q23  Are you seriously considering quitting smoking cigarettes in the next six months?

If Yes:

Q24  Are you planning to quit smoking cigarettes in the next 30 days?

If Yes:

Q25  Have you set a date when you plan to quit smoking cigarettes?

If Yes:

Q26  How many days from today is your quit date?
INTENTION TO CONTINUE/TAKE UP SMOKING (ASK ALL)

Q27 A year from now, how likely is it that you will be smoking?

Read out.

☐ Definitely will be smoking
☐ Probably will
☐ Might or might not
☐ Probably will not
☐ Definitely will not be smoking
☐ (Don’t Read) Can’t say

All long term ex-smokers and non-smokers go to Q30.

PERSONAL RISK OF ILLNESS

Q29a What do you think is the likelihood of becoming ill from your smoking if you continue to smoke?

☐ Not at all likely
☐ Not very likely
☐ 50/50
☐ Very likely
☐ Certain
☐ (Don’t read) Can’t say

CHECK CERTAINTY OF EFFECTS (ASK ALL)

Q30 In your opinion, which of the following two statements is nearest to the truth?

“You have to smoke for several years to do any damage to your health”

OR “Every cigarette you smoke is doing you damage to your health”

OR (Don’t read) Can’t say

PERSONAL SALIENCE OF HEALTH EFFECTS

Q31 Has smoking already done any harm to your body? Would you say it …

☐ Definitely has
☐ Probably has
☐ Perhaps it has
☐ Probably not
☐ Definitely not
☐ (Don’t read) Can’t say
CHECK "NEW NEWS" AND ACTIONS RESULTING

Q36 During the past six months, have you learned anything new about the effects of smoking cigarettes on health?

If Yes:

Q37 What have you learnt?

☐ Gunk, deposits, build-up, clogging, sticky arteries/artery walls/aorta, happens to young smokers.
☐ Lungs are like sponges/air sacks/tobacco, smoking destroys air sacks, smoking rots in lungs, lose breath because of damage to air sacks.
☐ Know how smoking causes lung cancer, DNA/gene protects from cancer/chemicals, smoking attacks P53/without P53 more likely to get cancer.
☐ Every cigarette is doing you damage.
☐ Causes strokes/clots in the brain.
☐ Other (Specify)
☐ (Don’t read) Can’t say

If longterm ex-smoker or non-smoker, go to Q45.

Other possible ad effects (ask smokers and recent ex-smokers)

Q38 During the past six months, have you done any of the following: (Prompt exhaustively.)

☐ Discussed smoking and health at home?
☐ Rung the Quit help line?
☐ Asked your doctor for help to quit?
☐ Used nicotine gum or nicotine patch?
☐ Bought a product other than nicotine gum or nicotine patch to help you quit?
☐ Read “how to quit” literature?
☐ (Don’t read) None of the above
☐ (Don’t read) Can’t say

Q38a During the past six months, have you done anything else to help you ‘quit’ smoking? (Prompt exhaustively.)

☐ Other (Specify)
☐ (Don’t read) Can’t say
☐ Done nothing else
Q39 During the past six months has anybody at your house been trying to get you to quit smoking?

If Yes:

Q40 What is that person’s relationship to you?

- [ ] Parent
- [ ] Child
- [ ] Sibling
- [ ] Partner/Spouse
- [ ] Friend/Flatmate
- [ ] Other

CONFIDENCE TO QUIT (ALL SMOKERS AND RECENT EX-SMOKERS)

Q41 How likely or unlikely is it that you’ll be able to stop smoking permanently?

Encourage best guess. If likely read 1–4, if unlikely read 4–7, if can’t say read 3–5.

1 [ ] Definitely will
2 [ ] Very likely
3 [ ] Quite likely
4 [ ] 50/50
5 [ ] Quite unlikely
6 [ ] Very unlikely
7 [ ] Definitely will not
8 [ ] (Don’t read) Can’t say

Q41a Assuming that you try to stop smoking, how likely or unlikely is it that you’ll be able to stop smoking permanently?

Response as above.

SMOKING ATTITUDES/KNOWLEDGE (ASK ALL)

In your opinion are the following statements true or false?

(Record True, False, Don’t know – alternate order)

Q45w3 Smoking causes strokes.

Q45a Smoking causes blood clots in the brain.

Q46 Smoking causes decay in the lungs.

Q47 Smoking blocks up arteries with fatty deposits.
Q48 Smoking causes damage to the genes in lung cells.

Thinking about the statements you think are true:

(Read out all that were deemed “True” in the order they were read)

Q49 Which one has the most impact on your thinking about smoking?

(Allow response of options, None, and Can’t say)
Encourage best guess.

I will now read out a series of statements. For each statement, could you please tell me to what extent you agree or disagree that these statements are true?

Option: 5 point strongly agree to strongly disagree.

Q51 Smoking causes lung cancer.

Q52 Smoking causes heart disease.

Q53 (Your) Smoking can harm others.

Q54 Smoking causes emphysema.

Q55 The dangers of smoking have been exaggerated.

Q56 Smoking can’t be all that bad for you because many people smoke all their lives and live to a ripe old age.

Q57 Smoking the occasional cigarette doesn’t cause any damage to your health.

Smokers only:

Q58 It would improve my health if I quit smoking.

ASSESSMENT OF CAMPAIGN EFFECT (ASK ALL)

There are a series of television advertisements which feature smokers inhaling cigarette smoke. In the advertisements we follow the cigarette smoke down the smoker’s throat and into their lungs, after which we hear and see a demonstration of the effects smoking has on the body. After this, we pass back through the smoker’s throat as they exhale and on the screen appears a telephone number and the campaign slogan ‘Every cigarette is doing you damage’. This slogan also appears in other campaign advertising. A further advertisement features a smoker picking up the telephone. In the advertisement, we follow the telephone line through a room full of people answering telephones and giving smokers advice on how to quit smoking.

Q58a Have you seen, read or heard any advertising from this campaign?

If Yes:
Q58b  Thinking about when you saw, read or heard this advertising, was it:

☐ On television
☐ On radio
☐ On the sides of buses
☐ On television in a doctor’s waiting room
☐ On signs in shopping centres
☐ In the newspaper
☐ On shopping trolleys
☐ Somewhere else (Specify)
☐ (Don’t read) Can’t say

Thinking about this anti-smoking campaign as a whole:

Q59  (Smokers) Do you think it has made you more or less likely to quit smoking or made no difference?

Q60  (Recent ex-smokers) Do you think it has helped you to stay quit, made it more difficult for you to stay quit, or had no effect?

Q61  (Non-smokers) Do you think it would help smokers quit and/or recent ex smokers stay off cigarettes?

OTHER TOBACCO USE (ASK ALL)

Q62  In the last year have you smoked any cigars or pipes?

☐ Cigars
☐ Pipes
☐ Neither

Daily smokers go to Q67.
Recent ex-smokers go to Q71.
Longer ex-smokers and non-smokers to Q80.

IDENTIFY OCCASIONAL AND REDUCING SMOKERS

Q65  (Occasional smokers) You said before that you only smoke cigarettes on some days of the week. On how many days per week do you usually smoke?
Q66  Do you smoke on more days, fewer days or the same amount of days than you did six months ago?
   ☐ More days
   ☐ Fewer days
   ☐ The same
   ☐ (Don’t read) Can’t say

BRAND AND CONSUMPTION  (ALL SMOKERS)

Q67  Do you mainly smoke roll-your-own cigarettes?

If Yes, go to Q69.
If No, ask:

Q67a  What is the brand and pack size of the cigarettes you smoke most often?

Brand ________________________________
Pack size ________________________________

Q68  How many packs per week do you smoke?

Q69  How many cigarettes per day would you smoke on average?

If non-daily, ask:

Q70  How many cigarettes per week would you smoke on average?

CHANGE IN CONSUMPTION  (ASK SMOKERS AND RECENT EX-SMOKERS)

Q71  About how many cigarettes per week were you smoking at this time one year ago?

QUITTING HISTORY  (SMOKERS ONLY)

Q72  Have you ever tried to quit smoking?

Q73  How long ago did you last try to quit smoking?

Q74  How long on that occasion did you stay off smoking cigarettes?

SUPPLIER AND PRICE

Q75  Thinking about the pack you are using now, what sort of shop was it bought at?

   ☐ Convenience store (milkbar, dairy etc, 7-Eleven)
   ☐ Petrol or service station
   ☐ Supermarket
   ☐ Specialist tobacconist (shop or stall)
   ☐ Hotel or restaurant
Vending machines
☐ Milkbar/Deli
☐ Newsagent
☐ Liquor store
☐ Other (Specify)
☐ (Don’t read) Can’t say

Q76a Was that a pack or a carton?

If pack:

Q76aap Could you tell me what the cost of the pack was?
Q76bp Could you please tell me the number of cigarettes in the pack?

If carton:

Q76aac Could you tell me what the carton of the pack was?
Q76bc Could you please tell me the number of cigarettes in the carton?
Q77 Was this a packet/carton of the brand you mentioned before as the one you smoke the most often?

If not:

Q77a What was the brand of this pack/carton?

DEMOGRAPHICS OF PRIMARY RESPONDENT (ASK ALL)

Q80 Can you please tell me what is the highest educational level you have attained?

☐ Some primary school
☐ Finished primary school
☐ Some secondary school
☐ Finished secondary school
☐ Some tertiary education (University, TAFE or College)
☐ Finished tertiary education
☐ Higher degree or higher diploma (eg PhD, Masters or Graduate Diploma)
☐ Can’t say
☐ Refused

Q81 Which of the following best describes your employment status?

☐ Working full-time
☐ Working part-time
☐ Retired/Pensioner
☐ Student
☐ Non-worker
☐ Home duties
☐ Unemployed/looking for work

Q82 What is your (last) occupation – the position and industry?

Thank you for your time and assistance. May I please speak to ...............?

End or continue with next respondent.
APPENDIX 2B

STATE DATA FOR SELECTED VARIABLES
### State Data for Selected Variables

The main aim of the benchmark and follow-up surveys was to assess changes in response to the campaign at a national level. It is thus not entirely appropriate to draw conclusions about individual states. Instead, what is more important is to focus on the overall trend rather than looking at change in a single measure.

Measures that applied to the entire sample of all smokers and recent quitters were included. Because the resultant cell sizes were too small for reliable statistical analysis, measures that were only applicable to the sub-samples of smokers only, or recent quitters only, were not included.

Generally, the state data reflected similar patterns of change as in the national data. Performance on all measures was also relatively comparable across the states with no state doing consistently better or worse.

From the trends in the findings, it is clear that in all states, the National Tobacco Campaign was exerting relatively even effects. The main purpose of presenting the state data is to provide evidence to support this conclusion.

**TABLE 2B.1 NUMBER OF SMOKERS AND RECENT QUITTERS INTERVIEWED, BY STATE**

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of smokers and recent quitters interviewed:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,192</td>
<td>2,981</td>
<td>1,646</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>422</td>
<td>1,055</td>
<td>581</td>
</tr>
<tr>
<td>Victoria</td>
<td>298</td>
<td>746</td>
<td>412</td>
</tr>
<tr>
<td>Queensland</td>
<td>220</td>
<td>550</td>
<td>304</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>106</td>
<td>266</td>
<td>145</td>
</tr>
<tr>
<td>Western Australia</td>
<td>118</td>
<td>295</td>
<td>165</td>
</tr>
<tr>
<td>Tasmania</td>
<td>28</td>
<td>70</td>
<td>38</td>
</tr>
</tbody>
</table>
### TABLE 2B.2 UNPROMPTED RECALL OF ANTI-TOBACCO ADVERTISING, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unprompted recall of anti-tobacco advertising [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25%</td>
<td>46%</td>
<td>42%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>20%</td>
<td>40%</td>
<td>32%</td>
</tr>
<tr>
<td>Victoria</td>
<td>28%</td>
<td>45%</td>
<td>51%</td>
</tr>
<tr>
<td>Queensland</td>
<td>22%</td>
<td>52%</td>
<td>42%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>26%</td>
<td>52%</td>
<td>55%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>42%</td>
<td>56%</td>
<td>43%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>25%</td>
<td>46%</td>
<td>34%</td>
</tr>
</tbody>
</table>

### TABLE 2B.3 RECOGNITION OF NATIONAL TOBACCO CAMPAIGN ADVERTISING, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition of campaign advertising [entire sample]:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>87%</td>
<td>87%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>89%</td>
<td>79%</td>
</tr>
<tr>
<td>Victoria</td>
<td>89%</td>
<td>95%</td>
</tr>
<tr>
<td>Queensland</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>80%</td>
<td>89%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>87%</td>
<td>85%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>84%</td>
<td>92%</td>
</tr>
</tbody>
</table>
### TABLE 2B.4 NEW LEARNING ABOUT SMOKING AND HEALTH IN THE PAST SIX MONTHS, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learned anything new about smoking in past six months [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14%</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>15%</td>
<td>23%</td>
<td>20%</td>
</tr>
<tr>
<td>Victoria</td>
<td>15%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Queensland</td>
<td>13%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>12%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>11%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>11%</td>
<td>23%</td>
<td>25%</td>
</tr>
</tbody>
</table>

### TABLE 2B.5 AGREEMENT WITH STATEMENT 'SMOKING CAUSES DECAY IN THE LUNGS', BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking causes decay in lungs (% true) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>93%</td>
<td>95%</td>
<td>94%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>93%</td>
<td>94%</td>
<td>95%</td>
</tr>
<tr>
<td>Victoria</td>
<td>94%</td>
<td>95%</td>
<td>94%</td>
</tr>
<tr>
<td>Queensland</td>
<td>92%</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>95%</td>
<td>96%</td>
<td>93%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>93%</td>
<td>95%</td>
<td>93%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>94%</td>
<td>94%</td>
<td>93%</td>
</tr>
</tbody>
</table>
### TABLE 2B.6 AGREEMENT WITH STATEMENT ‘SMOKING BLOCKS UP ARTERIES WITH FATTY DEPOSITS’, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking blocks up arteries with fatty deposits (% true) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54%</td>
<td>83%</td>
<td>76%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>53%</td>
<td>82%</td>
<td>73%</td>
</tr>
<tr>
<td>Victoria</td>
<td>54%</td>
<td>85%</td>
<td>82%</td>
</tr>
<tr>
<td>Queensland</td>
<td>56%</td>
<td>81%</td>
<td>72%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>61%</td>
<td>88%</td>
<td>84%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>46%</td>
<td>83%</td>
<td>75%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>53%</td>
<td>83%</td>
<td>80%</td>
</tr>
</tbody>
</table>

### TABLE 2B.7 AGREEMENT WITH STATEMENT ‘SMOKING CAUSES DAMAGE TO GENE CELLS IN THE LUNGS’, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking causes damage to the gene cells in the lungs (% true) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>68%</td>
<td>78%</td>
<td>70%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>60%</td>
<td>75%</td>
<td>65%</td>
</tr>
<tr>
<td>Victoria</td>
<td>70%</td>
<td>81%</td>
<td>72%</td>
</tr>
<tr>
<td>Queensland</td>
<td>76%</td>
<td>78%</td>
<td>70%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>65%</td>
<td>81%</td>
<td>72%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>73%</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>71%</td>
<td>77%</td>
<td>74%</td>
</tr>
</tbody>
</table>
### TABLE 2B.8 PERCEIVED LIKELIHOOD OF BECOMING ILL FROM SMOKING, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived likelihood of becoming ill from smoking (% true) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45%</td>
<td>52%</td>
<td>50%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>41%</td>
<td>52%</td>
<td>51%</td>
</tr>
<tr>
<td>Victoria</td>
<td>46%</td>
<td>54%</td>
<td>53%</td>
</tr>
<tr>
<td>Queensland</td>
<td>45%</td>
<td>49%</td>
<td>45%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>49%</td>
<td>54%</td>
<td>51%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>53%</td>
<td>54%</td>
<td>47%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>47%</td>
<td>51%</td>
<td>48%</td>
</tr>
</tbody>
</table>

### TABLE 2B.9 PERCEPTION AS TO WHETHER SMOKING HAS ALREADY DONE HARM, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has smoking already done harm to your body? (% true) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>56%</td>
<td>55%</td>
<td>57%</td>
</tr>
<tr>
<td>Victoria</td>
<td>44%</td>
<td>57%</td>
<td>57%</td>
</tr>
<tr>
<td>Queensland</td>
<td>57%</td>
<td>58%</td>
<td>58%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>51%</td>
<td>57%</td>
<td>56%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>48%</td>
<td>58%</td>
<td>55%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>51%</td>
<td>52%</td>
<td>55%</td>
</tr>
</tbody>
</table>
### TABLE 2B.10 PERCENTAGE OF SMOKERS IN PRECONTEMPLATION, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of change (% precontemplation) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>48%</td>
<td>43%</td>
<td>43%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>50%</td>
<td>45%</td>
<td>42%</td>
</tr>
<tr>
<td>Victoria</td>
<td>49%</td>
<td>45%</td>
<td>47%</td>
</tr>
<tr>
<td>Queensland</td>
<td>45%</td>
<td>37%</td>
<td>39%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>49%</td>
<td>43%</td>
<td>43%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>45%</td>
<td>42%</td>
<td>44%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>54%</td>
<td>42%</td>
<td>46%</td>
</tr>
</tbody>
</table>

### TABLE 2B.11 INTENTION NOT TO BE SMOKING A YEAR FROM NOW, BY STATE

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Benchmark</th>
<th>Follow-up 1</th>
<th>Follow-up 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking a year from now (% will not be) [entire sample]:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36%</td>
<td>41%</td>
<td>38%</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>36%</td>
<td>39%</td>
<td>36%</td>
</tr>
<tr>
<td>Victoria</td>
<td>37%</td>
<td>41%</td>
<td>37%</td>
</tr>
<tr>
<td>Queensland</td>
<td>39%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>29%</td>
<td>40%</td>
<td>39%</td>
</tr>
<tr>
<td>Western Australia</td>
<td>35%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Tasmania</td>
<td>31%</td>
<td>41%</td>
<td>37%</td>
</tr>
<tr>
<td>Smokers &amp; recent quitters</td>
<td>Benchmark</td>
<td>Follow-up 1</td>
<td>Follow-up 2</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Quindex mean value (sd) [entire sample]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.63 (2.3)</td>
<td>3.94 (2.5)</td>
<td>3.66 (2.3)</td>
</tr>
<tr>
<td>New South Wales (incl ACT)</td>
<td>3.63 (2.3)</td>
<td>4.04 (2.5)</td>
<td>3.57 (2.2)</td>
</tr>
<tr>
<td>Victoria</td>
<td>3.80 (2.4)</td>
<td>3.77 (2.3)</td>
<td>3.56 (2.2)</td>
</tr>
<tr>
<td>Queensland</td>
<td>3.50 (2.2)</td>
<td>4.02 (2.5)</td>
<td>3.75 (2.4)</td>
</tr>
<tr>
<td>South Australia (incl NT)</td>
<td>3.41 (2.4)</td>
<td>3.81 (2.4)</td>
<td>3.77 (2.3)</td>
</tr>
<tr>
<td>Western Australia</td>
<td>3.71 (2.3)</td>
<td>3.97 (2.5)</td>
<td>3.95 (2.4)</td>
</tr>
<tr>
<td>Tasmania</td>
<td>3.33 (2.4)</td>
<td>3.82 (2.4)</td>
<td>3.54 (2.4)</td>
</tr>
</tbody>
</table>
Chapter Three

IMPACT OF THE NATIONAL TOBACCO CAMPAIGN:
COMPARISON BETWEEN TEENAGE AND ADULT SURVEYS

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Centre for Behavioural Research in Cancer

Meg Montague
Social Policy and Research Consultant

Justin Freeman
Centre for Behavioural Research in Cancer
Abstract

A survey was conducted in November 1998 to assess the impact of the National Tobacco Campaign on teenagers aged 14–17 years. Four hundred teenagers were surveyed of whom 26% were smokers or recent quitters (those who have quit within the past year) and 74% were non-smokers. The results of this survey are compared with the results of a similar survey among adults aged 18–40 years which was also conducted in November 1998.

Although the campaign was not targeted at teenagers, the results of the teenage survey showed that the campaign was well received among the younger age group. In general, teenage smokers and recent quitters showed positive responses to the campaign similar to adult smokers and recent quitters. Salient findings include:

- recognition of campaign advertising by 96% of teenage smokers and recent quitters;
- among teenage smokers and recent quitters, 85% found the campaign relevant to them;
- more teenage smokers and recent quitters (49%) than adult smokers and recent quitters (23%) reported new learning about the health effects of smoking cigarettes;
- more teenage smokers and recent quitters (67%) than adult smokers and recent quitters (50%) said that the campaign advertising made them more likely to quit smoking;
- a majority of teenage recent quitters (68%) said that the campaign helped them to stay quit and a majority of teenage non-smokers (86%) said the campaign helped them remain non-smokers;
- an average of eight out of 10 teenagers felt that the campaign did not increase the appeal of smoking for teenagers, rather it made smoking seem less cool and desirable.

The findings show that the campaign, though not specifically targeted at teenage smokers, achieved favourable responses from those aged 14–17 years. In some instances, teenage smokers and recent quitters responded more positively than adult smokers and recent quitters aged 18–40 years. The findings suggest that the cessation-focused campaign was successful in promoting quitting among teenagers.
Teenage respondents also reported that the campaign discouraged uptake among their friends. However, this should not preclude the need to examine more specific ways of addressing the issue of smoking among teenagers.
Introduction

The first phase of the National Tobacco Campaign ran from June to November 1997. It targeted smokers aged 18–40 years and was cessation-focused. Although teenagers were not specifically targeted in this campaign, the need to tackle prevention of smoking among young people as part of a comprehensive tobacco control program was recognised. This study provides an opportunity to explore whether messages and strategies designed to provide highly salient reasons for quitting among adults would also be effective at discouraging uptake and promoting cessation among young people.

There was also a concern that campaigns can have contrary effects on young people. Theories in developmental psychology have suggested that authority messages specific to teenagers may be rejected by those most at risk of smoking (Hill, 1999). Research was conducted in the developmental stage of the campaign to assess the potential effect of the campaign on teenagers. A sample of 245 secondary school students aged 13–17 years from four schools (two in Victoria and two in New South Wales) were shown the Artery and Lung advertisements. The findings showed that the advertisements evoked strong anti-smoking sentiment with 40% of smokers saying that they were more likely to quit (Borland et al, 1999). Two intercept surveys were also conducted in September 1997 and July 1998 involving a total of 450 children aged 10–14 years recruited from two shopping centres in Adelaide. The findings also showed that anti-smoking sentiments were provoked in response to the advertisements (Wakefield et al, 1999). In general, the research showed no negative impact of the campaign advertising among teenagers.

In November 1998, as part of the evaluation of the National Tobacco Campaign, a survey of teenagers was included. It was anticipated that this national survey would confirm the findings of the previous research done among teenagers. It would also be useful in providing information for the design of any future campaigns that specifically target teenagers.
Method

To monitor campaign outcomes, three large evaluation surveys were conducted. A benchmark survey was conducted in May 1997 before the campaign was launched. The campaign advertising schedule then ran from June to November 1997 and the first follow-up evaluation survey was conducted in November 1997, six months after the first launch. The results of the benchmark survey and the first follow-up have already been discussed in chapter two (Wakefield et al, 1999) of the first evaluation volume (Hassard (ed), 1999).

A second phase of campaign advertising was scheduled from April to November 1998 after which the second follow-up survey was conducted in November 1998 one year after the first follow-up. A survey of teenagers aged 14–17 years was conducted at the same time to assess the impact of the National Tobacco Campaign on young people. This allowed a comparison to be made with the responses of adults from the second follow-up survey. The Roy Morgan Research Centre conducted all the evaluation surveys.

SAMPLING METHOD AND SAMPLE SIZE

The survey was conducted by telephone and used the electronic white pages as the sampling frame. The sample was selected from each of the six states. Australian Capital Territory (ACT) was included with New South Wales (NSW) and Northern Territory (NT) was included with South Australia (SA).

The total number of teenagers sampled was 400, of whom 295 were non-smokers and 105 were smokers or recent quitters. This proportion of smokers and recent quitters (26%) and non-smokers (74%) approximately reflected the current proportions in the general adolescent population (Hill et al, 1999).

For the second follow-up survey of those aged 18–40 years, a quota sampling method was used which aimed to generate 75% of the sample as smokers (those who smoke on a weekly basis) or recent quitters (defined as those who stopped smoking cigarettes on a weekly basis in the past year). Table 3.1 shows the proportions of smokers and recent quitters compared with non-smokers for both the teenage survey and the adult second follow-up survey. The gender proportions for each sample were similar.
TABLE 3.1  SAMPLE SIZE OF THE TEENAGE AND ADULT SECOND FOLLOW-UP SURVEYS

<table>
<thead>
<tr>
<th>Number of people sampled</th>
<th>Teenagers</th>
<th>Adults (respondents sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>400</td>
<td>2,274</td>
</tr>
<tr>
<td>Smokers and recent quitters</td>
<td>105 (26%)</td>
<td>1,646 (72%)</td>
</tr>
<tr>
<td>Non-smokers</td>
<td>295 (74%)</td>
<td>628 (28%)</td>
</tr>
</tbody>
</table>

LIMITATIONS OF THE SAMPLE SIZE AND IMPLICATIONS FOR COMPARISONS

As reported in Table 3.1, a total of 400 teenagers were surveyed of whom 105 were smokers or recent quitters. Care should be taken in interpreting the responses of the sub-sample of smokers and recent quitters as the sample size of 105 is relatively small. Variance for estimates for a sample size of 105 at a confidence level of 95% is at a maximum of ± 10%. Therefore, the results reported are generally descriptive in nature.

Table 3.2 shows the composition of the sub-sample of teenage and adult smokers and recent quitters. It is important to note that within the teenage sub-sample of smokers and recent quitters, there was an equal proportion of teenagers from each sub-group while the majority of the adult sub-sample were smokers (92%) rather than recent quitters (8%).

TABLE 3.2  SUB-SAMPLE OF TEENAGE AND ADULT SMOKERS AND RECENT quitters

<table>
<thead>
<tr>
<th>Smokers and recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>40 (38%)</td>
<td>1,351 (82%)</td>
</tr>
<tr>
<td>At least Weekly</td>
<td>12 (11%)</td>
<td>162 (10%)</td>
</tr>
<tr>
<td>Recent quitters</td>
<td>53 (51%)</td>
<td>133 (8%)</td>
</tr>
</tbody>
</table>
Thus, the differences between the teenage and adult samples should be taken into account. Nonetheless, responses of teenage and adult smokers and recent quitters offer an interesting comparison.

**QUESTIONNAIRE ADMINISTRATION**

The questionnaire used in the teenage survey was similar to the one used for the adult sample, although there were some modifications. The teenage survey omitted several items in the questionnaire for the adults, including detailed questions about smoking habits, intentions to quit and perceptions of personal harm from smoking. The complete teenage questionnaire can be found in Appendix 3A, and the adult questionnaire in the preceding chapter in Appendix 2A.

Permission of parents or guardians was sought before the teenagers were interviewed. Participants were first asked about their awareness of advertising about health. They were also asked whether there were any illnesses or damage caused by smoking, and if so, to describe what these were. A series of questions were then asked about cigarette smoking in order to categorise participants into smokers, recent quitters and non-smokers. Smokers were asked about their feelings about being a smoker. All participants were then asked about their likelihood of smoking a year from now, and recent quitters and non-smokers were asked if they would smoke if offered a cigarette by their best friend and if there were any circumstances in which they would smoke in the next year. The next section of the questionnaire asked for participants’ agreement or disagreement on a number of opinion statements relating to smoking and health.

Campaign advertising was then described to all participants and those who recognised the campaign advertising were asked where they had seen, heard or read about it and whether they thought it was relevant to them. They were further asked for their appraisal of the campaign in terms of its impact on them and their friends. In addition, they were asked whether they thought the campaign would be effective in discouraging smoking and uptake or encouraging quitting in different age groups.

Demographic information was obtained including age, sex, birth country of participants and parents, language spoken at home, level of educational attendance (if currently studying), employment status (if currently working) and amount of money spent per week.
STATISTICAL METHODS AND PRESENTATION OF DATA

Comparisons between proportions were undertaken using conventional chi-square tests. Confidence levels (at the 95% level) are reported to impute statistical significance. Calculations were conducted on weighted data to correct state imbalances in the teenage sample (but total sample size is maintained at the same level as if unweighted). The weighting was based on the latest estimates available for the population aged 14–17 years with no adjustment made for the proportion of smokers and non-smokers in the population. The reason for this was that the proportion of smokers in the teenage sample approximated the current proportion in the general adolescent population (Hill et al, 1999). However, for the second follow-up survey of adults (those aged 18–40 years), weighted data were adjusted for smoking proportions across states to more accurately reflect the adult population.

For most of the results section, data on teenagers are presented for the total sample and sub-sample of smokers and recent quitters. Where appropriate, a comparison is made with the second follow-up survey of adult smokers and recent quitters aged 18–40 years.

Results

RECALL AND RECOGNITION: WAS THE CAMPAIGN SEEN AND REMEMBERED BY TEENAGERS?

Unprompted recall of advertising about tobacco was assessed by asking participants, “During the past three months, have you seen or heard any advertising campaigns on television, radio, in the newspaper or anywhere else encouraging people to do things to improve their health?” If participants said they had, they were then asked, “What was the advertising campaign(s) about?”

Table 3.3 shows that 71% of teenage smokers and recent quitters recalled seeing health advertising. Adult smokers and recent quitters in the second follow-up survey showed marginally higher recall at 81%. However, overall unprompted mention of anti-tobacco advertising was higher among teenagers than adults.
TABLE 3.3  UNPROMPTED RECALL OF HEALTH ADVERTISING ABOUT TOBACCO

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seen any health advertising in the past three months</td>
<td>71% [63%, 80%]</td>
<td>81% [79%, 83%]</td>
</tr>
<tr>
<td>Unprompted recall of anti-tobacco advertising (of those who saw health advertising)</td>
<td>63% [52%, 74%] (\text{total sample})</td>
<td>52% [49%, 55%] (\text{total sample})</td>
</tr>
<tr>
<td>[ \text{limits of 95% confidence interval}]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interviewers also assessed prompted recognition of campaign advertising by reading a standard description which included the campaign slogan “Every cigarette is doing you damage” and asking respondents whether they had seen, read or heard any advertising from this campaign. Those who did not say they had, were read an additional brief description “This campaign shows an artery being squeezed, a brain being sliced and smoke being drawn into a lung” and asked again if they recognised the advertising.

Table 3.4 shows that prompted recognition of campaign advertising was high (96%) for teenagers. The lower recognition rate for adult respondents (87%) in the second follow-up survey was statistically significant.

Almost all the teenage smokers and recent quitters (99%) who recognised the campaign advertising mentioned the television component. Other advertising sources reported by at least 10% of them included radio, sides of buses, shopping centre signs, the television in the doctor’s waiting room and the newspaper. Compared with the adult respondents, significantly more teenagers recognised the campaign advertising through the radio and shopping centre signs.

Overall, the data showed that the majority of teenage smokers and recent quitters saw the campaign. Furthermore, prompted recognition of campaign advertising by teenagers (96%) was significantly higher than by adults (87%) in the second follow-up survey.
TABLE 3.4 RECOGNITION OF NATIONAL TOBACCO CAMPAIGN ADVERTISING

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prompted recognition of campaign advertising (% yes)</td>
<td>96% [92%, 100%]</td>
<td>87% [85%, 88%]</td>
</tr>
<tr>
<td>Prompted recognition of where NTC advertising seen (% yes):</td>
<td>(n=101)</td>
<td>(n=1,424)</td>
</tr>
<tr>
<td>(of those who saw NTC advertising)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>99% [97%, 100%]</td>
<td>98% [97%, 99%]</td>
</tr>
<tr>
<td>Radio</td>
<td>26% [17%, 35%]</td>
<td>16% [14%, 18%]</td>
</tr>
<tr>
<td>Sides of buses</td>
<td>22% [14%, 30%]</td>
<td>15% [13%, 17%]</td>
</tr>
<tr>
<td>Shopping centre signs</td>
<td>21% [13%, 29%]</td>
<td>8% [7%, 9%]</td>
</tr>
<tr>
<td>Television in doctor’s waiting room</td>
<td>19% [11%, 27%]</td>
<td>12% [10%, 14%]</td>
</tr>
<tr>
<td>Newspaper</td>
<td>18% [11%, 25%]</td>
<td>17% [15%, 19%]</td>
</tr>
<tr>
<td>School</td>
<td>5% [1%, 9%]</td>
<td>not in adult survey</td>
</tr>
<tr>
<td>Shopping trolley</td>
<td>4% [0%, 8%]</td>
<td>2% [1%, 3%]</td>
</tr>
<tr>
<td>Billboard</td>
<td>4% [0%, 8%]</td>
<td>2% [1%, 3%]</td>
</tr>
<tr>
<td>Magazine</td>
<td>1% [0%, 3%]</td>
<td>1% [0%, 2%]</td>
</tr>
<tr>
<td>Cigarette packets</td>
<td>1% [0%, 3%]</td>
<td>not in adult survey</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

ATTITUDES, BELIEFS AND KNOWLEDGE: WHAT TEENAGERS SAID ABOUT SMOKING AND HEALTH

At the beginning of the questionnaire, after participants were assessed on unprompted recall of health advertising, they were asked a series of questions about their health beliefs and attitudes. Participants were asked, “In your opinion, are there any illnesses or damage to the body caused by smoking?” Those who said yes were asked to name which illnesses were so caused. Interviewers noted the first mention and then prompted participants for other illnesses caused by smoking.

As shown in Table 3.5, 97% of teenagers and 95% of adults believed that there are illnesses or damage caused by smoking. There was little difference in the percentage of teenage or adult smokers and recent quitters who were able to name
specific illnesses caused by smoking. The only two exceptions were more adults (34%) than teenagers (17%) named heart disease as an illness caused by smoking and more teenagers (13%) than adults (4%) said that smoking caused clots in the brain.

TABLE 3.5 UNPROMPTED AWARENESS OF ILLNESS AND DAMAGE CAUSED BY SMOKING

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Believe that there are illnesses or damage caused by smoking (entire sample)</td>
<td>97% [94%, 100%]</td>
<td>95% [94%, 96%]</td>
</tr>
<tr>
<td>Specific illnesses mentioned: (entire sample)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung damage</td>
<td>12% [6%, 18%]</td>
<td>15% [13%, 17%]</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>70% [61%, 79%]</td>
<td>61% [59%, 63%]</td>
</tr>
<tr>
<td>Heart disease</td>
<td>17% [10%, 24%]</td>
<td>34% [32%, 36%]</td>
</tr>
<tr>
<td>Cancer (Unspecified)</td>
<td>23% [15%, 31%]</td>
<td>32% [30%, 34%]</td>
</tr>
<tr>
<td>Throat cancer</td>
<td>19% [11%, 27%]</td>
<td>16% [14%, 18%]</td>
</tr>
<tr>
<td>Clots in the brain</td>
<td>13% [7%, 19%]</td>
<td>4% [3%, 5%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Participants were then asked if they had learned anything new about the effects of smoking cigarettes on health in the past year and if so to describe what they learned. Table 3.6 shows that 49% of teenage smokers and recent quitters indicated learning something new. This is a statistically significant higher proportion compared with adult respondents (23%). However, among those who had learned something new, more adults than teenagers mentioned campaign-specific messages such as ‘clogged arteries’, ‘lungs are like sponges’ and ‘smoking causes strokes / clots in the brain’. More teenage smokers and recent quitters (31%) who reported learning something new were unable to specify what they had learned as compared to adult smokers and recent quitters (9%).
TABLE 3.6  NEW LEARNING ABOUT SMOKING AND HEALTH IN THE PAST YEAR

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learned anything new about the effects of smoking cigarettes on health in the past year</td>
<td>49% [40%, 59%]</td>
<td>23% [21%, 25%]</td>
</tr>
<tr>
<td>What learnt:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(of those who learnt something new)</td>
<td>(n=52)</td>
<td>(n=374)</td>
</tr>
<tr>
<td>Clogged arteries</td>
<td>2% [0%, 6%]</td>
<td>19% [15%, 23%]</td>
</tr>
<tr>
<td>How smoking causes lung cancer</td>
<td>15% [5%, 25%]</td>
<td>9% [6%, 12%]</td>
</tr>
<tr>
<td>Lungs are like sponges</td>
<td>6% [0%, 12%]</td>
<td>20% [16%, 24%]</td>
</tr>
<tr>
<td>Causes strokes / clots in the brain</td>
<td>8% [1%, 15%]</td>
<td>25% [21%, 29%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td>31% [18%, 44%]</td>
<td>9% [6%, 12%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Table 3.7 shows that similar proportions of teenage (69%) and adult (61%) respondents did not think that the dangers of smoking have been exaggerated. More teenagers than adults disagreed with the statements: “Smoking can’t be all that bad because many people smoke all their lives and live to a ripe old age” and “Smoking the occasional cigarette doesn’t cause any damage to your health”.

TABLE 3.7  LEVEL OF AGREEMENT WITH OPINION STATEMENTS ABOUT SMOKING AND HEALTH

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The dangers of smoking have been exaggerated (% disagree)</td>
<td>69% [60%, 78%]</td>
<td>61% [58%, 63%]</td>
</tr>
<tr>
<td>Smoking can’t be all that bad because many people smoke all their lives and live to a ripe old age (% disagree)</td>
<td>83% [76%, 90%]</td>
<td>60% [58%, 62%]</td>
</tr>
<tr>
<td>Smoking the occasional cigarette doesn’t cause any damage to your health (% disagree)</td>
<td>76% [67%, 84%]</td>
<td>55% [53%, 58%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval
In general, a large majority of teenage smokers and recent quitters agreed with the statements about campaign-related beliefs as reflected in Table 3.8. However, comparison with the adult sample shows that more teenagers than adults agreed that “Every cigarette is doing you damage”. More of them also thought that “Smoking blocks up arteries with fatty deposits”. The only exception was for the statement “Smoking causes damage to the genes in lung cells” with agreement from more adults than teenagers. For the remaining three statements, there was no significant difference in the level of agreement between teenage and adult smokers and recent quitters.

<table>
<thead>
<tr>
<th>TABLE 3.8 CAMPAIGN-RELATED BELIEFS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Smokers &amp; recent quitters</th>
<th>Teenagers (n=105)</th>
<th>Adults (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which is nearest to the truth? “Every cigarette is doing you damage” vs “You have to smoke for several years to do any damage to your health”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(% Every cigarette is doing you damage)</td>
<td>97% [94%, 100%]</td>
<td>81% [79%, 83%]</td>
</tr>
<tr>
<td>Smoking causes strokes (% true)</td>
<td>82% [75%, 89%]</td>
<td>77% [75%, 79%]</td>
</tr>
<tr>
<td>Smoking causes blood clots in the brain (% true)</td>
<td>73% [65%, 82%]</td>
<td>71% [69%, 73%]</td>
</tr>
<tr>
<td>Smoking causes decay in the lungs (% true)</td>
<td>94% [90%, 99%]</td>
<td>94% [93%, 95%]</td>
</tr>
<tr>
<td>Smoking blocks up arteries with fatty deposits (% true)</td>
<td>85% [78%, 92%]</td>
<td>76% [74%, 78%]</td>
</tr>
<tr>
<td>Smoking causes damage to the genes in lung cells (% true)</td>
<td>63% [54%, 72%]</td>
<td>70% [68%, 72%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Overall, the majority of teenage smokers and recent quitters believed that there are illnesses or damage caused by smoking. More teenagers than adults learned something new about the effects of smoking on health and more of them agreed with some of the statements about smoking and health and campaign-related beliefs.
Although teenagers were not specifically targeted for this campaign, exposure to campaign advertising would certainly reach them. In order to assess the level of impact, those who had recognised campaign advertising were asked about campaign relevance, whether the campaign caused any discussions about smoking and health and whether the campaign portrayed a particular image of smoking.

Participants who recognised the campaign advertising were asked if they found the campaign very relevant, somewhat relevant or not at all relevant to them. Table 3.9 shows that more teenage smokers and recent quitters (85%) found the campaign very relevant or somewhat relevant compared to teenage non-smokers (46%).

**TABLE 3.9 CAMPAIGN RELEVANCE**

<table>
<thead>
<tr>
<th>Teenagers</th>
<th>Smokers &amp; recent quitters (n=105)</th>
<th>Non-smokers (n=295)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(of those who had seen campaign)</td>
<td></td>
</tr>
<tr>
<td>Very relevant</td>
<td>37% [28%, 46%]</td>
<td>15% [11%, 19%]</td>
</tr>
<tr>
<td>Somewhat relevant</td>
<td>48% [38%, 58%]</td>
<td>31% [26%, 37%]</td>
</tr>
<tr>
<td>Not at all relevant</td>
<td>15% [8%, 22%]</td>
<td>53% [48%, 59%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Participants were also asked if the campaign caused any discussions about smoking and health in their home, school and among their friends. Table 3.10 shows that more teenage smokers and recent quitters (54%) were discussing smoking and health with their friends compared with discussion at home or in school, while more teenage non-smokers (57%) than smokers and recent quitters (37%) were having these discussions in school.
Participants were asked for their agreement or disagreement with two statements about the image of smoking portrayed by the campaign. These statements were: “This campaign makes smoking seem appealing to some teenagers” and “This campaign makes smoking seem less cool and desirable”.

Table 3.11 shows that regardless of whether they were smokers, recent quitters or non-smokers, the majority of the participants felt that the campaign did not make smoking seem appealing to some teenagers and has instead made smoking seem less cool and desirable. Although 23% of teenage smokers and recent quitters said the campaign made smoking seem appealing, none thought that it made them less likely to quit (see Table 3.12).

Overall, the campaign appears to be more relevant to teenage smokers and recent quitters than non-smokers. It caused some discussion about smoking and health among teenagers at home, in school and among friends. The data also show that the majority of teenagers did not judge the campaign to be making smoking seem appealing to teenagers.

**APPRAISAL OF CAMPAIGN ADVERTISING: DID THE CAMPAIGN MAKE TEENAGE SMOKERS THINK ABOUT QUITTING?**

Teenage smokers who recognised the campaign advertising were asked “Do you feel good or bad about being a smoker or do you have mixed feelings?” and also if the campaign made them more or less likely to quit smoking, or made no difference.
TABLE 3.11 IMAGE OF SMOKING

<table>
<thead>
<tr>
<th>Teenagers</th>
<th>Smokers &amp; recent quitters (n=105)</th>
<th>Non-smokers (n=295)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the campaign make smoking seem appealing to some teenagers? (of those who had seen campaign)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td>23% [15%, 31%]</td>
<td>14% [10%, 18%]</td>
</tr>
<tr>
<td>False</td>
<td>76% [68%, 84%]</td>
<td>83% [79%, 88%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td>1% [0%, 3%]</td>
<td>3% [1%, 5%]</td>
</tr>
<tr>
<td>Does the campaign make smoking seem less cool and desirable?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td>84% [76%, 91%]</td>
<td>86% [82%, 90%]</td>
</tr>
<tr>
<td>False</td>
<td>12% [6%, 18%]</td>
<td>11% [7%, 15%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td>4% [0%, 8%]</td>
<td>3% [1%, 5%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Recent quitters and non-smokers were asked whether the campaign advertising had helped them to stay quit, made it more difficult to stay quit or had no effect. And non-smokers were asked if the campaign advertising helped them to remain a non-smoker (this question was not in the questionnaire used in the adult survey).

Table 3.12 shows that 23% of teenage smokers felt bad about being a smoker. One in three female smokers felt bad about being a smoker compared with one in ten male smokers. Comparison with the adult sample shows that more adult smokers (36%) felt bad about being a smoker with both male and female adult smokers equally feeling bad.

More teenage smokers (67%) said that the campaign advertising made them more likely to quit smoking than did the adult smokers (50%) while more adult smokers (46%) than teenage smokers (31%) thought that the campaign did not make a difference in their likelihood to quit smoking. These were statistically significant differences. A majority of teenage recent quitters (68%) said the campaign advertising helped them to stay quit, this was marginally more than the adult recent quitters (56%).
### TABLE 3.12 CAMPAIGN-ATTRIBUTED ENCOURAGEMENT TO QUIT (SELF-REPORT)

<table>
<thead>
<tr>
<th>Teenagers</th>
<th>Teenagers (n=400)</th>
<th>Adult smokers &amp; recent quitters (n=1,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers: Feelings about being a smoker (% feel bad)</td>
<td>23% [12%, 34%]</td>
<td>36% [34%, 39%]</td>
</tr>
<tr>
<td>Whether campaign advertising made them more or less likely to quit? (of those who had seen campaign)</td>
<td>67% [54%, 80%]</td>
<td>50% [48%, 53%]</td>
</tr>
<tr>
<td>More likely to quit</td>
<td>31% [18%, 44%]</td>
<td>46% [43%, 49%]</td>
</tr>
<tr>
<td>No difference</td>
<td>0%</td>
<td>3% [2%, 4%]</td>
</tr>
<tr>
<td>Less likely</td>
<td>2% [0%, 6%]</td>
<td>1% [0%, 2%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quitters: Whether campaign advertising helped them to stay quit? (of those who had seen campaign)</td>
<td>68% [55%, 81%]</td>
<td>56% [47%, 65%]</td>
</tr>
<tr>
<td>Helped to stay quit</td>
<td>27% [15%, 39%]</td>
<td>40% [31%, 49%]</td>
</tr>
<tr>
<td>No effect</td>
<td>0%</td>
<td>1% [0%, 3%]</td>
</tr>
<tr>
<td>More difficult</td>
<td>5% [0%, 11%]</td>
<td>3% [0%, 6%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-smokers: Whether campaign advertising helped them to remain non-smokers? (of those who had seen campaign)</td>
<td>86% [83%, 90%]</td>
<td>not in adult survey</td>
</tr>
<tr>
<td>Yes</td>
<td>12% [9%, 16%]</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1% [0%, 3%]</td>
<td></td>
</tr>
<tr>
<td>Can’t say</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Most teenage non-smokers (86%) thought that the campaign advertising helped them to remain non-smokers. Of the small minority (12%) that found the campaign least helpful in encouraging them to remain non-smokers, most were males aged 16 years and above (63%).

Participants were asked about their future intentions regarding smoking cigarettes. All participants were asked about their likelihood of smoking a year from
now. Recent quitters and non-smokers were asked, “If one of your best friends were to offer you a cigarette, would you smoke it?” and “Are there any circumstances where you would smoke in the next year?”

<table>
<thead>
<tr>
<th>TABLE 3.13  FUTURE INTENTIONS ABOUT SMOKING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teenagers</strong></td>
</tr>
<tr>
<td>(All participants)</td>
</tr>
<tr>
<td>Likelihood of smoking a year from now:</td>
</tr>
<tr>
<td>Will be</td>
</tr>
<tr>
<td>Might or might not</td>
</tr>
<tr>
<td>Will not be</td>
</tr>
<tr>
<td>Can’t say</td>
</tr>
<tr>
<td>(Recent quitters and non-smokers)</td>
</tr>
<tr>
<td>If best friend offered a cigarette, would you smoke?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Can’t say</td>
</tr>
<tr>
<td>(All participants)</td>
</tr>
<tr>
<td>Any circumstances you would smoke in the next year?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Can’t say</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval

Table 3.13 shows that the majority of teenagers (64% of smokers and recent quitters and 96% of non-smokers) said they would not be likely to smoke a year from now. Seventeen percent of teenage smokers and recent quitters and 1% of non-smokers said they would be likely to smoke a year from now.

The majority of teenage non-smokers said they would not smoke if offered a cigarette by their best friends (97%) and that there were no circumstances where they would smoke in the next year (93%). The 2% of teenage non-smokers who said they would smoke if offered were all females.
Even among non-smokers and recent quitters, a majority said they would not take best friends’ offered cigarettes (72%) and there were no circumstances in which they would smoke next year (93%).

Overall, the campaign appears to be effective in encouraging quitting among more teenage smokers and helping more teenage recent quitters than adult counterparts stay quit. The data also show that most teenagers reported that they would not be smoking a year from now.

TEENAGERS’ PERCEPTION OF THE EFFECTIVENESS OF THE CAMPAIGN ON OTHERS

All participants were asked about the impact of the campaign on their friends’ smoking. They were asked for their agreement or disagreement with the statements “This campaign has discouraged some of my friends from smoking” and “This campaign had led some teenagers I know to quit or try to quit”. These two items were not in the questionnaire used for the adult survey.

TABLE 3.14 CAMPAIGN-ATTRIBUTED ENCOURAGEMENT TO QUIT (OBSERVATION OF FRIENDS)

<table>
<thead>
<tr>
<th>Teenagers</th>
<th>Smokers &amp; recent quitters (n=105)</th>
<th>Non-smokers (n=295)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=101)</td>
<td>(n=283)</td>
</tr>
<tr>
<td>Whether campaign advertising discouraged friends from smoking:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(of those who had seen campaign)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td>32% [23%, 41%]</td>
<td>36% [31%, 42%]</td>
</tr>
<tr>
<td>False</td>
<td>59% [49%, 68%]</td>
<td>52% [46%, 58%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td>9% [4%, 15%]</td>
<td>12% [8%, 15%]</td>
</tr>
<tr>
<td>Whether campaign advertising led teenagers they knew to quit or try to quit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>True</td>
<td>59% [50%, 69%]</td>
<td>50% [45%, 56%]</td>
</tr>
<tr>
<td>False</td>
<td>41% [31%, 50%]</td>
<td>39% [33%, 45%]</td>
</tr>
<tr>
<td>Can’t say</td>
<td>0%</td>
<td>11% [7%, 14%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval
Table 3.14 shows that when asked whether the campaign discouraged their friends from smoking, similar percentages of teenage smokers and recent quitters (32%) and non-smokers (36%) agreed that it had. However, more teenage smokers and recent quitters (59%) than non-smokers (50%) thought that the campaign had led some teenagers they knew to quit or try to quit.

A series of questions about the effectiveness of the campaign on different age groups was included. Respondents were asked whether they thought the campaign would be effective in discouraging smoking in people from different age categories. They were also asked if the campaign had been discouraging people from taking up smoking and encouraging quitting among smokers who were younger than themselves, their age and older than themselves.

As there were no significant differences between the sub-groups of smokers and recent quitters and non-smokers, Table 3.15 presents the data for the entire sample of teenagers. Overall, 67% of teenagers thought that the campaign would be effective in discouraging smoking in everybody who smokes or might smoke. Similar percentages were observed for campaign effectiveness in discouraging smoking in secondary school students, young adults and older adults. However, a statistically significant higher proportion of teenagers (89%) thought that the campaign would be effective in discouraging smoking in primary school students. Most teenagers felt that the campaign has been discouraging the uptake of smoking among teens. In terms of campaign effectiveness in encouraging quitting, more teenagers felt that the campaign has been encouraging smokers older than themselves (70%) and older adult smokers (67%) to quit.

Overall, teenagers’ observation of the impact of the campaign on others appears to be positive. More teenage smokers and recent quitters than non-smokers thought that the campaign led teenagers they knew to quit or try to quit. Most teenagers also thought that the campaign was effective in discouraging uptake of smoking and encouraging quitting in the different age groups.
<table>
<thead>
<tr>
<th>Will the campaign be effective in discouraging smoking in:</th>
<th>Teenagers (n=400)</th>
<th>Teenagers (of those who had seen campaign)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everybody who smokes or might smoke</td>
<td>67% [62%, 72%]</td>
<td>67% [62%, 72%]</td>
</tr>
<tr>
<td>Primary school students</td>
<td>89% [86%, 92%]</td>
<td>89% [86%, 92%]</td>
</tr>
<tr>
<td>Secondary school students</td>
<td>77% [73%, 81%]</td>
<td>77% [73%, 81%]</td>
</tr>
<tr>
<td>Young adults</td>
<td>83% [79%, 87%]</td>
<td>83% [79%, 87%]</td>
</tr>
<tr>
<td>Older adults</td>
<td>85% [81%, 89%]</td>
<td>85% [81%, 89%]</td>
</tr>
<tr>
<td>Has this campaign been discouraging people from taking up smoking in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teenagers younger than you</td>
<td>70% [65%, 75%]</td>
<td>70% [65%, 75%]</td>
</tr>
<tr>
<td>Teenagers your age</td>
<td>67% [62%, 72%]</td>
<td>67% [62%, 72%]</td>
</tr>
<tr>
<td>Teenagers older than you</td>
<td>59% [54%, 64%]</td>
<td>59% [54%, 64%]</td>
</tr>
<tr>
<td>Has this campaign been encouraging smokers to quit who are:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger than you</td>
<td>58% [53%, 63%]</td>
<td>58% [53%, 63%]</td>
</tr>
<tr>
<td>Your age</td>
<td>60% [55%, 65%]</td>
<td>60% [55%, 65%]</td>
</tr>
<tr>
<td>Older than you</td>
<td>70% [65%, 75%]</td>
<td>70% [65%, 75%]</td>
</tr>
<tr>
<td>Older adults</td>
<td>67% [62%, 72%]</td>
<td>67% [62%, 72%]</td>
</tr>
</tbody>
</table>

[ ] limits of 95% confidence interval
Discussion

OVERALL FINDINGS

In general, the data from the teenage survey are positive and suggest that the National Tobacco Campaign is likely to have had an impact on teenagers. The campaign advertising was seen and remembered by teenagers. The campaign messages provided new information and were remembered by teenage smokers and recent quitters. Further, there was strong agreement with campaign-related beliefs about smoking and health with a majority agreeing with the campaign slogan; “Every cigarette is doing you damage”.

The findings clearly indicate that teenagers’ responses were comparable to adults and in some instances, responded more positively to the campaign than adults did. Specifically, more teenage smokers and recent quitters saw the campaign advertising and acquired new learning about smoking and health than adult smokers and recent quitters. More teenage than adult smokers and recent quitters reported that the campaign made them more likely to quit.

RECALL AND RECOGNITION OF CAMPAIGN ADVERTISING

A greater proportion of teenage smokers and recent quitters (96%) compared to adult smokers and recent quitters (87%) reported recognising the campaign advertising. The questionnaire used in the teenage survey included an additional prompt that was not in the questionnaire used in the adult survey. This could account for the difference in the recognition rates of teenagers and adults.

Consistent with the media buy, both teenage and adult respondents who recognised the campaign advertising most often cited the television advertising. More teenage respondents than adult respondents who recognised the campaign advertising attributed it to the radio and signs in the shopping centre. It would be useful to keep this in mind if targeting teenagers in anti-smoking campaigns.

ATTITUDES, BELIEFS AND KNOWLEDGE ABOUT SMOKING AND HEALTH

Although a similar number of teenage and adult smokers and recent quitters agreed that there were illnesses and damage caused by smoking, more adults were
able to name the specific illnesses when asked. This could be a result of adults having a greater pre-existing knowledge about smoking and health issues.

More teenage than adult smokers and recent quitters reported acquiring new learning about smoking and health in the past year. This could also be due to adults’ pre-existing knowledge which may have left less scope for new learning compared with teenagers.

It was encouraging to note that in spite of the strong, graphic messages conveyed in the campaign advertising, both teenagers and adults disagreed with the statement that “The dangers of smoking have been exaggerated”. This is assurance that the credibility of the campaign has been accepted.

Teenage smokers and recent quitters as a group showed agreement with more campaign-related beliefs than did adult smokers and recent quitters. Specifically, more teenage than adult smokers and recent quitters agreed that “Every cigarette is doing you damage” and that “Smoking blocks up arteries with fatty deposits”. This suggests that the campaign slogan and the Artery advertisement could have had a greater impact on teenagers than adults. This is consistent with findings from a youth targeted South Australian campaign (Wakefield et al, 1999) in which Artery received higher recognition rates among teenagers than adults. Also, Artery was voted the most effective anti-smoking television advertisement by high-school students in British Columbia and earned the right to be used in a one-week television campaign aimed at teenagers in British Columbia (Hill et al, 1999). This adds to the positive response to the Artery advertisement which tracking studies have shown to be the most powerful of the four advertisements (Donovan, 1999).

WHAT TEENAGERS THOUGHT ABOUT THE CAMPAIGN

Overall, the campaign appears to be more relevant to teenage smokers and recent quitters than to teenage non-smokers. It caused some discussion about smoking and health among teenagers at home, in school and among friends. The data show that in the view of the majority of teenagers, the campaign did not make smoking seem appealing to teenagers.

The finding that 85% of teenage smokers and recent quitters found the campaign to be relevant is very encouraging given that the campaign was not explicitly designed with the teenage smoker in mind. This supports Hill’s (1999)
proposition that adolescents have the capacity to understand and act upon evidence against smoking and should respond as adults to adult-focused campaigns.

The data suggest that for the majority of teenagers, the campaign was perceived to contribute to a reduction in appeal and desirability of smoking. However, the finding that 23% of teenage smokers and recent quitters said that the campaign did in fact make smoking more appealing to some teenagers warrants careful monitoring of this potential unintended consequence.

**DID THE CAMPAIGN MAKE SMOKERS THINK ABOUT QUITTING?**

Overall, the campaign appears to be effective in encouraging quitting among teenage smokers and helping teenage recent quitters stay quit, even more so than adult smokers and recent quitters.

It is encouraging to note that most teenagers reported they would be unlikely to smoke a year from now. The data show that most teenage non-smokers, nine out of ten, were resolved to stay non-smoking. And more than half of teenage smokers and recent quitters felt that they would not be smoking in the future. This measure of good intentions could be further encouraged and built upon. However, a vulnerable group of 28% of recent quitters reported that they would smoke if offered a cigarette by their best friend. This provides an indication of the strong social influence of peers and could be an issue to address in the formulation of a youth targeted campaign.

**TEENAGERS’ PERCEPTION OF THE IMPACT OF THE CAMPAIGN ON OTHERS**

Overall, most teenagers thought that the campaign was effective in discouraging uptake of smoking and encouraging quitting in the different age groups. In terms of discouraging smoking, 89% of teenagers thought that the campaign would be effective for primary school students. Most teenagers felt that the campaign would be most successful in encouraging quitting among smokers older than themselves.

**LIMITATIONS AND CONSIDERATIONS FOR INTERPRETING RESULTS**

As mentioned in an earlier section, the relatively small sample size of teenagers has to be kept in mind when interpreting the findings. In addition, the difference
in the proportion of the sub-sample of teenage smokers (49%) and recent quitters (51%) and adult smokers (92%) and recent quitters (8%) should be taken into account.

A further limitation is that there was no benchmark survey for teenagers and therefore the findings reflect their responses at a specific point in time, 18 months after the first launch of the campaign. This is in contrast to the adult sample where their responses can be seen in the light of the benchmark and first follow-up surveys allowing an assessment of changes over time.

The adult sample provided fairly precise prevalence estimates while the teenage survey did not. It is thus not known if the campaign affected the prevalence of smoking among teenagers. However, the Australian Secondary Students Alcohol and Drug Use Survey (ASSAD), a national survey undertaken every three years provides data on the prevalence of smoking among secondary school students (Hill et al, 1999). The most recent survey in this series was conducted in 1999.

The findings showed that teenagers did not differ much from adults in their responses to the campaign. This could be due to the intra household correlation as a result of the sampling method. The majority of teenagers who were interviewed for the teenage survey came from the same households in which the adults participated in the adult survey. It is likely that this might have contributed to greater agreement between teenagers and adults.

**Conclusion**

The overall results of the teenage survey show that teenagers had positive responses to the campaign comparable to the adults. Teenage smokers and recent quitters remembered the campaign advertisements and acquired new learning. This resulted in strong support for campaign-related statements about smoking and health. Teenage smokers found the campaign to be relevant and felt that it helped them to quit. In spite of the campaign being cessation-focused, it was also effective in helping recent quitters stay quit and reaffirming non-smokers’ resolve to remain non-smoking. The majority of teenagers reported that the campaign advertising did not make smoking seem more appealing to teenagers and instead made it seem less cool and desirable.
These findings strongly suggest that the campaign was productive for teenagers. When compared with the second follow-up of the main target group aged 18–40 years, teenagers showed similar, and in some instances, significantly more positive responses than the adults.

In spite of the limitations of this study, the encouraging findings of the teenage survey provide possible areas to explore for future campaigns targeting this age group. These include prevention, scope for new learning about smoking and health issues, building upon good intentions to quit and the influence of peers.
References


Hill D. Why we should tackle adult smoking first. Tobacco Control 1999; 8: 333–335.


Appendix 3A

TEENAGE SURVEY
INTRODUCTION

Hello, my name is .................... from Roy Morgan Research, the people who conduct the Morgan Gallop Poll. I am conducting a short survey on some health issues. I would like to interview the 14–17 year-olds in your household but as they are under 18, I need to speak to a parent or guardian first to get their permission.

Ask parents / guardians:

Qa  Do I have your permission to do this?

If No:
Thank you for your time and assistance, but we need your permission to be able to continue with this interview.

If Yes:
Thank you very much, can I please speak to the 14–17 year old in your household to do the interview?

TEENAGE INTERVIEW

Hello, my name is .................... from Roy Morgan Research, the people who conduct the Morgan Gallop Poll. I am conducting a short survey on some health issues. The questions I have to ask will take less than 10 minutes to complete. Your opinion will be a valuable contribution to the health research we are conducting and will be used for statistical purposes only.

I just need to know exactly when you were born.

Record year, month and day.

UNBIASED CAMPAIGN SALIENCE

Q1  During the past three months have you seen or heard any advertising campaign(s) on TV, radio, in the newspaper or anywhere else, encouraging people to do things to improve their health?

Q2  What was the advertising campaign(s) about? (Prompt exhaustively.)

SALIENCE OF HEALTH EFFECTS

Q3  In your opinion, are there any illnesses or damage to the body caused by smoking?

YES     1

NO     2 (Go to Q6)

If Yes:
Q4  **Which illnesses or damage are caused by smoking cigarettes? (Do not aid.)**

Asthma  
Blocked arteries  
Blocked blood vessels  
Blood pressure  
Bronchitis  
Cancer (unspecified)  
Lung cancer  
Throat cancer  
Circulatory problems  
Circulatory disease  
Cough  
Emphysema  
Flu / Colds  
Genetic damage / DNA damage  
Heart disease  
Lung damage / Kills lung cells  
Pregnancy complications  
Premature ageing  
Reduced fitness  
Respiratory diseases  
Stroke / Vascular disease  
Ulcers  
Wrinkles  
Clots in the brain  
Other (specify)  
None  
Can’t say

Q5  **What else? Anything else?** *(Prompt exhaustively.)*

*Highlight first mentioned only, then circle all others mentioned.*

**SMOKING BEHAVIOUR**

Q6  **Do you now smoke cigarettes daily, at least weekly, less often than weekly, or not at all?**

*If 'at least weekly', go to Q10.  
If No/Can’t say:*

Q7  **Have you ever smoked even a part of a cigarette?**

*If No/Can’t say, go to Q9.  
If Yes:*
Q7a  Now with the next question, I would just like you to tell me the appropriate number as I read them out. You said that you smoked part of a cigarette, was that …

☐ Just a few puffs
☐ Fewer than 100 cigarettes in your life
☐ More than 100 cigarettes in your life
☐ Not at all
☐ (Don’t read) Can’t say

If Not at all/Can’t say, go to Q9.

Q8  When did you last smoke a cigarette?

☐ In the last seven days
☐ In the last month
☐ In the last year
☐ More than a year ago
☐ (Don’t read) Can’t say

If ‘in the last 7 days’:

Q8a  Thinking about the last seven days, on how many days did you smoke a cigarette? (Encourage best guess.)

Q9  Have you ever smoked cigarettes on at least a weekly basis?

Q9a  Did you stop smoking cigarettes on a weekly basis more than one year ago, less than one year ago?

Q10  Do you feel good or bad about being a smoker, or do you have mixed feelings?

If good/bad:

Is that very or somewhat?

If mixed feelings:

Is that more good, more bad, or equal?

Q11  A year from now, how likely is it that you will be smoking?

Read out.

☐ Definitely will be smoking
☐ Probably will
☐ Might or might not
☐ Probably will not
☐ Definitely will not be smoking
☐ (Don’t read) Can’t say
Q12 If one of your best friends were to offer you a cigarette, would you smoke it?

Read out.

☐ Definitely yes
☐ Probably yes
☐ Probably no
☐ Definitely no
☐ (Don’t read) Can’t say

Q13 Are there any circumstances where you would smoke in the next year?

Read out.

☐ Definitely yes
☐ Probably yes
☐ Probably no
☐ Definitely no
☐ (Don’t read) Can’t say

CHECK CERTAINTY OF EFFECTS *(ASK ALL)*

Q14 In your opinion, which of the following two statements is nearest to the truth?

“You have to smoke for several years to do any damage to your health”

OR “Every cigarette you smoke is doing you damage to your health”

OR (Don’t read) Can’t say

CHECK ’NEW NEWS’ AND ACTIONS RESULTING

Q15 During the past year or so, have you learned anything new about the effects of smoking cigarettes on health?

If Yes:

Q16 What have you learnt?

☐ Gunk, deposits, build-up, clogging, sticky arteries/artery walls/aorta, happens to young smokers.

☐ Lungs are like sponges/air sacks/tobacco, smoking destroys air sacks, smoking rots in lungs, lose breath because of damage to air sacks.

☐ Know how smoking causes lung cancer, DNA/gene protects from cancer/chemicals, smoking attacks P53/without P53 more likely to get cancer.

☐ Every cigarette is doing you damage.

☐ Causes strokes/clots in the brain.

☐ Other (specify)

☐ Can’t say
SMOKING ATTITUDES/KNOWLEDGE (ASK ALL)

In your opinion are the following statements true or false?

(Record True, False, Don’t Know – alternate order)

Q17 Smoking causes strokes.
Q18 Smoking causes blood clots in the brain.
Q19 Smoking causes decay in the lungs.
Q20 Smoking blocks up arteries with fatty deposits.
Q21 Smoking causes damage to the genes in lung cells.

I will now read out a series of statements. For each statement, could you please tell me to what extent do you agree or disagree that these statements are true?

Option: five point strongly agree to strongly disagree.

Q22 The dangers of smoking have been exaggerated.
Q23 Smoking can’t be all that bad for you because many people smoke all their lives and live to a ripe old age.
Q24 Smoking the occasional cigarette doesn’t cause any damage to your health.

ASSESSMENT OF CAMPAIGN EFFECT (ASK ALL)

There are a series of television advertisements which feature smokers inhaling cigarette smoke. In the advertisements we follow the cigarette smoke down the smoker’s throat and into their lungs, after which we hear and see a demonstration of the effects smoking has on the body. After this, we pass back through the smoker’s throat as they exhale and on the screen appears a telephone number and the campaign slogan “Every cigarette is doing you damage”. This slogan also appears in other campaign advertising. A further advertisement features a smoker picking up the telephone. In the advertisement, we follow the telephone line through a room full of people answering telephones and giving smokers advice on how to quit smoking.

Q25 Have you seen, read or heard any advertising from this campaign?

If Yes, go to Q26.

Q25a This campaign shows an artery being squeezed, a brain being sliced and smoke being drawn into a lung. Have you seen, read or heard this advertising?

Q26 Thinking about when you saw, read or heard this advertising, was it:

☐ On television
☐ On radio
Q27 Did you find this campaign very relevant to you, somewhat relevant to you, or not at all relevant?

Do you think this campaign will be effective in discouraging smoking in …

Q27a Everybody who smokes or might smoke?

Q27b Primary school students?

Q27c Secondary students?

Q27d Young adults?

Q27e Older adults?

In your opinion are the following statements true or false?

Q28 This campaign has discouraged some of my friends from smoking.

Q29 This campaign makes smoking seem appealing to some teenagers.

Q30 This campaign has led some teenagers I know to quit or try to quit.

Q31 This campaign makes smoking seem less cool and desirable.

Would you say this campaign has been discouraging people from taking up smoking in the following age groups?

Q32a In teenagers younger than you.

Q32b In teenagers your age.

Q32c In teenagers older than you.

Would you say this campaign has been encouraging smokers to quit who are in the following age groups?

Q33a Who are younger than you.

Q33b Who are your age.

Q33c Who are young adults older than you.

Q33d Who are older adults.
Q34 Has this advertising campaign caused any discussion in YOUR HOME about smoking and health?

Q35 Has this advertising campaign caused any discussion in YOUR SCHOOL about smoking and health?

Q36 Has this advertising campaign caused any discussion AMONGST YOUR FRIENDS about smoking and health?

Thinking about this anti-smoking campaign as a whole,

Q37a (Smokers) Do you think it has made you more likely or less likely to quit smoking or made no difference?

Q37b (Recent ex-smokers) Do you think it has helped you to stay quit, made it more difficult for you to stay quit, or had no effect?

Q37c (Non-smokers) Do you think it has helped you to remain a non-smoker?

DEMOGRAPHICS OF RESPONDENT (ASK ALL)

To make sure we have interviewed a true cross-section of people, I'd like to ask you a few questions about yourself.

Q38 Can you tell me what country your FATHER was born in?

Q39 Can you tell me what country your MOTHER was born in?

Q39a Can you tell me what country YOU were born in?

Q40 Are you an Aboriginal or Torres Straits Islander?

Q41 At home is any language other than English spoken? Any others?

Q42 During this year, 1998, have you been studying at school, college or somewhere else? Is that full-time or part-time study?

Q43 Are you currently studying at …

*Read out:*

- [ ] Secondary (High) School
- [ ] At Technical School, a commercial college or TAFE
- [ ] At University or an institute of technology
- [ (Don’t read) ] Other (Specify)
- [ (Don’t read) ] Can’t say
Q44  Have you currently got a paying job? Is that a full-time job or casual job?

Q45  How much money do you spend on yourself personally, each week, not including rent or bills?

Q47  With your school work do you consider yourself a lot above average, above average, average, below average, or a lot below average?

Q48  Would you say that …
   □ Most of your friends smoke
   □ Some of your friends smoke
   □ None of your friends smoke
   □ (Don’t read) Can’t say

*If a current smoker, ask:*

Q49  When was it that you first started smoking cigarettes?

Q50  Record sex of respondent.
Chapter Four

TRACKING THE NATIONAL TOBACCO CAMPAIGN
PHASE TWO

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Abstract

This report provides brief descriptive details of the second phase of continuous information tracking (CIT) surveys undertaken as part of a comprehensive evaluation of the National Tobacco Campaign. The main aims of the tracking survey were to plot the relationship between campaign advertising and output measures such as smokers’ awareness of and reaction to the campaign, and indicators of interest in smoking cessation. In 1997 (phase one), tracking data were collected only in Melbourne. In 1998 (phase two), tracking data were collected in two cities: Melbourne and Sydney. Results are compared with the 1997 data and between cities. This report also presents calls to the Quitline as a function of target audience rating points (TARPs) data for Victoria and New South Wales (NSW).

Campaign salience and individual advertisement cut-through levels were far lower than in 1997, reflecting the lower media weights in 1998. In 1997, the total TARPs in Melbourne over the first four weeks was approximately 1180. In 1998, the total for the first four weeks in Sydney was approximately 370 and in Melbourne was approximately 575.

In both NSW and Victoria, and particularly in NSW, calls to the Quitline were only slightly lower than in 1998 even though TARPs levels were considerably lower. However, the major advertisement shown in 1998 (approximately two-thirds of total TARPs in each city) was the Call for help advertisement that modelled calling the Quitline. This modelling execution probably compensated for the lower TARPs levels.

Overall, the data suggest that calls to the Quitline can be triggered by relatively low TARPs levels, particularly for advertisements that model call behaviour, but that overall campaign salience declines markedly with lower TARPs. These findings are discussed in terms of the differential roles of health effects advertising versus Quitline modelling behaviour.
Introduction

This report provides details of the tracking survey undertaken by the National Tobacco Campaign Research and Evaluation Committee, as part of a comprehensive evaluation of the National Tobacco Campaign. The main aims of the tracking survey were to plot the relationship between inputs such as paid and unpaid media, other events in tobacco control and tobacco industry activity (where known), and output measures such as smokers’ awareness of and reaction to the campaign, attempts to and intentions to quit, and other indicators of interest in smoking cessation. The results described in this chapter focus only on the advertising input. In phase one (1997), tracking data were collected only in Melbourne (see Donovan et al, 1999). In phase two (1998), tracking data were collected in Melbourne and Sydney. Data were obtained only for the capital cities rather than the whole state for practical reasons (for example, actual media weight data are easier to obtain for the cities than for the whole state).

THE CAMPAIGN TELEVISION ADVERTISEMENTS

Three television advertisements were developed for phase one of the campaign: Artery, Lung, and Tumour. These advertisements have been described in Hill et al (1999).

Two television advertisements were developed for phase two of the campaign: Brain and Call for help. Brain shows a brain being cut in two to reveal the results of a stroke in a smoker. Call for help promotes and models calls to the Quitline. Artery was also shown in Melbourne in phase two, and was shown in both cities in March prior to the launch of Brain in April.

CAMPAIGN TIMING AND TARPS

A Target Audience Rating Point (TARP), is a standard measure of the weekly volume of television advertising weight scheduled to reach the primary target audience (which for the campaign is all smokers aged 18–40 years old). TARPs are a multiple of the percent of the target audience reached by (exposed to) the campaign and the average number of times (frequency) a target audience member is exposed to the advertising. Hence TARPs data are somewhat ambiguous in that
240 TARPs may represent 80% of the target audience reached with an average frequency of three, or 60% reached an average of four times, and so on. (In most cases, advertisers attempt to reach 80% of their target audience over the first two weeks of a campaign).

The campaign commenced on April 19 in Melbourne and April 26 in Sydney. The campaign was of 11 weeks duration in Melbourne, although the last four weeks’ TARPs levels were less than 50 TARPs per week. TARPs for the first four weeks in Melbourne totalled 574. Campaign duration in Sydney was four weeks, with a total of 369 TARPs. These TARPs levels were approximately half the TARPs levels in phase one of the campaign in 1997.

World No Tobacco Day occurred in both cities on 31 May (approximately two weeks after the campaign ceased in Sydney).

**CONTINUOUS TRACKING METHODOLOGY**

‘Continuous Tracking’ (or Continuous Information Tracking: CIT), is designed to monitor campaign effects as a function of campaign activities on a weekly basis. In a continuous tracking program, interviewing is carried out continuously throughout an extended period. Data are collected on a weekly basis and then combined using a moving average ‘roll’, usually over 2–4 weeks. Continuous tracking methodology is described in detail in Appendix 4a of Donovan et al (1999).

**Method**

The methodology followed that of phase one, described fully in Donovan et al (1999). Briefly, telephone interviews using Computer Assisted Telephone Interviewing (CATI) technology were used. A random sample of telephone numbers was generated by the research agency’s CATI system. Unanswered numbers were automatically redialled after a set interval and three attempts to obtain contact were made before substitution. Only adults 18–40 years who currently smoked or who had done so on at least a weekly basis in the past year were administered the tracking questionnaire.
Following one week of pre-campaign surveying of smokers and recent quitters to establish a benchmark (n = 606), approximately 80–85 interviews were obtained in each of the two cities for the next 10 weeks. The pattern of weekly surveying was designed to spread the interviews as equally as possible over the seven days of the week.

The final sample comprised an equal proportion of males and females. There were 51% of respondents between the age of 18 and 30, and 47% between the age of 31 and 40 (2% of respondents who reported being between 18 and 40, but did not report their exact age). These figures were very similar to those in the 1998 sample.

**SPECIFIC MEASURES TRACKING THE CAMPAIGN**

The questionnaire (in Appendix 4B) contained a number of measures that can be classified into five broad categories (see Donovan et al, 1999 for a description of these categories). This report is limited to reporting on one of these five categories – campaign and advertising awareness/salience.

**PROCESSING IMPACT: CAMPAIGN AND ADVERTISING AWARENESS/SALIENCE**

Respondents were first asked: “During the past two weeks, have you seen any TV advertising about tobacco smoking?” This is known as ‘category cued recall’ and is a measure of the salience of the advertising. If “yes”, they were asked to describe the advertisements that came to mind.

Later in the questionnaire, respondents were read descriptions of the advertisements and asked whether they had seen each advertisement on television, and if so, how many times. This measure, ‘prompted recognition’, is a measure of whether or not the respondent has been exposed to the advertisement (‘advertising exposure’) and is a diagnostic check on whether the proposed media schedule achieved its forecast reach.

**EXTERNAL DATA MEASURES**

Throughout the tracking program, weekly TARPs data were collected. These were plotted against the measures described above, with the aim of providing an understanding of their relationship with the level of media activity.

Data on Quitline calls were obtained using a Telstra analyser. This allowed the
assessment of the actual number of calls to the 131 848 number in each state and whether the calls were answered, engaged or rang out. The call data presented in this report represent the number of calls made to the 131 848 number whether or not they were answered.

Results

Given the limitations of the data (that is, only four weeks of advertising in Sydney; only three weeks of TARPs greater than 100 in Melbourne), only descriptive observations are made on a limited set of variables in this report.

TOBACCO ADVERTISING SALIENCE RELATIVE TO OTHER HEALTH ISSUES

To get a response independent of any priming about smoking, the first adult person answering the phone was asked: “In the last two weeks have you seen or heard any advertising encouraging people to do things to improve their health?”. Those who said “yes” were asked what the topic was.

For the Sydney and Melbourne samples combined, the percentage mentioning anti-smoking as a topic rose from 6% in the week prior to commencement of the campaign, to a peak of 27% at the fourth week of the campaign. This onset effect was followed by a sharp decline to 12% in the fifth and sixth weeks, but rising to another peak of 19% in the week following World No Tobacco Day. The peak salience of 27% was far lower than the peak of 53% achieved in the third week of the campaign in phase one (see Donovan et al, 1999), approximately parallel to the disparity in TARPs between the two phases.

CAMPAIGN ADVERTISING AWARENESS

Once a smoking respondent was identified and randomly chosen from the household, the first question they were asked after their age and sex was whether they had “seen any television advertising about tobacco smoking in the last two weeks”. For the Sydney and Melbourne samples combined, reported awareness of any anti-tobacco advertising was 24% at baseline and there was an onset effect to a peak of 59% around week four of the campaign, followed by a steady downward trend to 42% over the last two weeks of tracking. This compares with a peak of 83% around week four of phase one.
To assist in identifying the advertisement(s) recalled, respondents were asked to describe the advertisement(s) they could recall and “what was the main message” of that advertisement. The recalled anti-smoking advertisements were analysed to identify those advertisements related to the campaign and those that were not related to campaign advertising. The proportion correctly recalling any one or more of the campaign advertisements is plotted against TARP levels in Figures 4.1 (Melbourne) and Figure 4.2 (Sydney).

Figure 4.1 shows that recall of any campaign advertising peaked at just under 60% in Melbourne, then began to decline as TARP levels declined, but was ‘boosted’ by the increased TARP levels in week six of the campaign. This compares with a peak of just under 80% in Melbourne in 1997 in phase one. The Melbourne 1998 data suggest that campaign awareness can be sustained by relatively low TARP levels, provided that periodic ‘booster’ levels occur.
In Sydney, where the TARPs levels were much lower, recall of any campaign advertising peaked at 40% and declined slowly at first before declining rapidly (Figure 4.2).

**SPECIFIC ADVERTISEMENT CUT-THROUGH**

Based on respondents’ descriptions of the advertisement(s) they were able to recall, Figures 4.1 and 4.2 also show the recall for each campaign advertisement and the TARPs for each advertisement. Advertising recall – or ‘cut-through’ – is a measure of the advertisement’s ability to be readily recalled from memory, and hence a measure of the advertisement’s noticeability or attention-getting power and the extent to which the advertisement’s content has been linked to the category cue (that is, tobacco smoking).

In spite of far lower TARPs levels, *Brain* achieved higher levels of cut-through than did *Call for help* in each city: 28% vs 10% in Melbourne; 18% vs 10% in
Sydney. Again, the differences in levels of cut-through in the two cities can be attributed to the difference in TARPs levels. Reflecting the far lower TARPs levels in phase two, these results are considerably lower than advertisement cut-through results in phase one.

Proprietary tracking data that we have observed suggest that the obtained cut-through levels for Brain are very satisfactory given the low levels of TARPs, but are clearly less than satisfactory in terms of desired campaign outcomes.

The cut-through obtained for Artery is of interest. In phase one, despite approximately equal TARPs levels in the first four weeks of the campaign, Artery was far more salient than Lung in smokers’ minds. Artery peaked at just under 65% recalling the advertisement on television “in the past two weeks”, compared with Lung peaking at 40%. It was noted in Donovan et al (1999) that the executional elements of Artery and the ‘new’ information in this advertisement probably contributed to this advertisement’s greater impact. Artery’s execution involves a clear figure-background format in that the squeezing of the artery is a clear and dominant image. Lung contains no single dominant image clearly distinct from all other images in the advertisement. Brain’s execution also involves a clear figure-background format. This attention grabbing capacity of Artery was also evident in the 1998 phase two results. In Melbourne, although receiving only 20 TARPs, Artery achieved a greater cut-through than Call for help, and peaked at 20% (see Figure 4.1). In Sydney, Artery achieved an initial cut-through greater than Call for help, but Call for help peaked at 10% in week four whereas Artery reached this level in week five (Figure 4.2).

The recall of Artery in both cities in spite of low or zero exposure, may be due to a number of factors. It may be that exposure to any of the campaign advertisements generates recall of this high impact advertisement which was the primary launch advertisement of the campaign. (This recall may be facilitated by the top and tail portions of the advertisements). However, Artery did receive almost 150 TARPs in Melbourne and almost 50 TARPs in Sydney in March – which may account for some of the recall of Artery in April–May.

The relatively higher cut-through of Brain than Call for help, in spite of higher TARPs with Call for help (almost a 2:1 ratio), supports the conclusion that the clear figure-background executional format as discussed in Donovan et al (1999) facilitates recall.
ADVERTISING RECOGNITION

At the end of the interview respondents were read descriptions of each of the advertisements and asked whether they had seen each advertisement on television, and if so, how many times. Advertising recognition is a measure of whether or not the respondent has been exposed to the advertisement, and is a diagnostic check on the reach of the proposed media schedule.

FIGURE 4.3: ADVERTISING RECOGNITION — BRAIN: MELBOURNE
BASE: 18-40 SMOKE/D — SEEN AD

Figures 4.3 and 4.4 show the levels of recognition and TARPs levels for *Brain* and *Call for help* respectively in Melbourne. Figures 4.5 and 4.6 show the corresponding data for Sydney. Figures 4.3 and 4.4 show that *Brain* achieved a far higher level of exposure than *Call for help*, in spite of far lower TARPs. The data for *Brain* show a steady increase in recognition with increasing duration on air, suggesting that the schedule gradually reaches more people with each burst of
FIGURE 4.4: ADVERTISING RECOGNITION — CALL FOR HELP: MELBOURNE
BASE: 18-40 SMOKE/D — SEEN AD

exposure. Both advertisements achieve 40%+ recognition by week four (in 1997 in Melbourne, Artery achieved nearly 90% by week four). However, the pattern for Call for help after week four is somewhat surprising. The explanation for this could be that the media schedule is reaching the same people rather than extending reach. An alternative explanation is that the verbal description for Call for help is less reliable than that for Brain.

In Sydney (Figures 4.5 and 4.6), Brain achieves a recognition of 40%+ by the third week, compared with Call for help not achieving this level until the fifth week despite much higher TARPs. Either the media placements for the two advertisements were quite different, or the verbal description of the Call for help advertisement is less effective than that for Brain in assessing a recognition response. This description was as follows:
Brain – “In one of the ads, the demonstration shows a brain being sliced in two and blood trickling out of one spot and we hear a voice describing what is happening”;

Call for help – “in a related ad, we see a male smoker ringing up a service to help smokers to quit and we follow the phone call travelling down the telephone line to a call centre. In this ad we see brief scenes of centre staff advising smokers about quitting, before returning to the smoker who made the call. The ad ends with advice to call the Quitline number”.

It may well be that terms like “centre staff” and “call centre” could be replaced and the overall description shortened.

Figure 4.5 shows a second peak for Brain of 50%+ in week seven of the campaign – in spite of an absence of TARPs. It may well be that some activity prior to World No Tobacco Day has not been recorded for Sydney.
While recognition measures exposure to the advertisement, it also to some extent measures the ability of the advertisement to sustain attention. That is, advertisements that are attended to more closely are more likely to be recognised than are advertisements that are categorised in the first few seconds by the respondent as of ‘no further interest/seen before/old news’ and then ignored. It is likely that Brain’s distinctly different execution attracted greater and more sustained attention than did Call for help, and hence greater recognition (and cut-through as did Artery in phase one).

**MEDIA WEIGHT AND QUITLINE CALLS**

Figures 4.7 and 4.8 show the TARPs for the two advertisements and calls to the Quitline for Melbourne and Sydney respectively. Both Figures 4.7 and 4.8 show that calls to the Quitline are sensitive to media weight, and that even low levels of TARPs are able to generate substantial numbers of callers above the baseline level of call activity.
Figures 4.7 and 4.8 show that calls to the Quitline are approximately equal in Sydney and Melbourne in the absence of any media activity, but, as in phase one (see Williams et al, 1999), the New South Wales Quitline response is significantly greater than that of Victoria – even allowing for the greater population base in New South Wales (NSW). The increased response in Sydney is even more significant in light of the media weight in Sydney being substantially less than in Melbourne. The increased sensitivity of the NSW 'market’ is likely due to that market’s far less exposure in recent years to Quit advertising and Quitline promotion.

Comparing the 1998 data with the 1997 call data for the periods of the tracking surveys, it is clear that in both Sydney and Melbourne, various call levels were achieved at significantly lower TARP's in 1998 than in 1997. For example, in 1997 in Victoria, on average, weekly TARP's below 200 generated less than 1000 calls. In 1998, weekly TARP's below 200 generated calls of 1,250 and over. In NSW in 1997, on average, weekly TARP's under 200 rarely generated 2000 calls, whereas
in 1998, TARPs below 200 generated calls substantially exceeding 2000. The primary difference between the advertisement mixes in the two phases was that phase two included the *Call for help* advertisement which modelled calling the Quitline. It appears likely that this modelling effect more than compensated for the lower TARPs in 1998 in terms of generating Quitline calls.

**Discussion**

These tracking data confirm the sensitivity of various campaign impact measures to media weight variations. Phase two campaign salience and individual advertisement cut-through levels were far lower than in phase one, reflecting the lower media weights in 1998; and these measures were lower in Sydney than in Melbourne – again reflecting differences in media weight.
The *Call for help* modelling advertisement, in spite of far greater TARPs, clearly had far less impact than the graphic health effects *Brain* advertisement in terms of campaign salience and advertisement cut-through measures. This suggests that health effects advertising may be more powerful than non health effects advertising on smokers in general. However, these measures for *Brain* in phase two were far less than those for *Artery* (and *Lung*) in phase one, reflecting the far lower TARPs levels in phase two.

Although calls to the Quitline are not the primary objective for Quit campaigns (only a small proportion of quitters actually call a Quitline), it is noteworthy that, in spite of lower TARPs levels, the number of calls to the Quitline in NSW was greater than in Victoria – probably due to the greater ‘maturity’ of the Melbourne ‘market’ with respect to previous Quitline promotion.

It is also noteworthy that in both NSW and Victoria, and particularly in NSW, calls to the Quitline were only slightly lower than in 1998 even though TARPs levels were considerably lower. However, the major advertisement shown in 1998 (approximately two-thirds of total TARPs in each city) was the *Call for help* advertisement which modelled calling the Quitline. This modelling execution probably compensated for the lower TARPs levels in phase two. A further reasonable assumption is that most callers to the Quitline are in the ready for action stage of change – a group of smokers that would be sensitive to even small amounts of any anti-tobacco activity in the media. This could partly explain why phase two, in spite of far lower TARPs, had a similar impact to phase one in terms of Quitline calls.

Overall, the data suggest that campaign salience is mainly dependent on graphic health effects advertising, but this declines markedly with lower TARPs, and that calls to the Quitline can be triggered by relatively low TARPs levels, particularly for advertisements that model call behaviour.

These findings, considered in the context of the tracking findings and Quitline data of volume one (Williams et al, 1999), suggest that anti-tobacco advertising in general can generate substantial Quitline activity, and that the level of activity – at least in the range used here – is directly related to the media weight. This relationship between media weight and Quitline activity is further examined in Appendix 4A.
IMPLICATIONS FOR FUTURE CAMPAIGNS

As more information becomes available from tracking surveys, more definitive recommendations can be made with respect to TARPs levels and advertisement types. In the meantime, given the results of both phase one (see Donovan et al, 1999) and phase two tracking, the following implications are noted.

Where the aim is to increase the salience of – or new knowledge of – health effects, and move smokers towards the contemplation and ready for action stages, health effects advertisements appear to require TARPs levels in the 200-250+ range to achieve acceptable campaign salience and advertising cut-through results. If the aim of a campaign is limited to the generation of calls to the Quitline, it appears that low levels of TARPs can be used (perhaps 100 per week or less), and particularly where the advertisement models calling behaviour. However, Quitline callers constitute only a small proportion of smokers in general, including smokers in the contemplation and ready for action stages. Tracking data to date strongly suggest that health effects advertising such as *Artery* and *Brain* is required to impact substantial proportions of all smokers, regardless of their stage of change.
References


Appendix 4A

QUITLINE CALLS AND CAMPAIGN TELEVISION INVESTMENT

Noellyn Tan and Kate Hassard
Centre for Behavioural Research in Cancer
Introduction

The National Tobacco Campaign was launched on 12 June 1997 and was targeted at adult smokers aged 18–40 years. Phase one of the campaign ran from June to December 1997 with three television advertisements, *Artery*, *Lung* and *Tumour*, which were a graphic portrayal of the health effects of smoking. The Quitline tag, Quit 131 848, was used to encourage smokers’ behavioural response to quitting smoking by calling the Quitline. In phase two, from January to December 1998, two additional television advertisements were launched on 22 April; *Brain*, which depicted a stroke and *Call for help*. With the *Call for help* advertisement, a more direct approach to generate call responses was used by modelling the desired action of a smoker calling the Quitline.

The relationship between television advertising activity and the volume of calls to the Quitline for phase one has been examined and reported in Williams et al, 1999. This report presents data on TARPs and Quitline calls during phase two of the campaign and compares the relationship between the two with that in the first phase. The data presented in this report are at the national aggregate level.

Method

**TELEVISION ADVERTISING ACTIVITY**

A Target Audience Rating Point (TARP), is the standard advertising industry measure of the weekly volume of television advertising weight. It is an estimate based on ratings surveys and one TARP represents 1% of the target audience who have had the opportunity to see a campaign advertisement on television (for a more detailed explanation of TARPs see Williams et al, 1999).

TARP data supplied from Australian Independent Media Data Pty. Ltd. were weighted for population using a methodology provided by Williams Media Audits. To do this, the metropolitan and regional data were combined, and, using population proportions for state capitals and regional areas, averages for TARPs were calculated.

The target age group for the National Tobacco Campaign is 18–40 years. However, the TARPs category is fixed at 18–39 years. The TARPs data used in this
report are national aggregate figures, based on the averaged TARPs across all states against all people aged 18 to 39 years.

There are some TARPs relating to campaign activity other than the National Tobacco Campaign included in this data. Nevertheless, the amount of TARPs related to other anti-smoking campaign activity is minimal.

**CALLS TO THE QUITLINE**

Data on Quitline calls were obtained using a Telstra analyser. This allowed an assessment of the actual number of calls to the 131 848 number in each state on the basis of whether the calls were answered, engaged or rang out. The call data presented in this report represent the number of calls made to the 131 848 number whether or not they were answered. National Quitline call data presented in this report are calculated as the average volume of calls across all states.

**Results**

At the national aggregate level, a distinct correlation between the Quitline call volume and the television TARP weights was observed in 1997 (Williams et al, 1999). In 1998, Quitline call volume appears to be more sensitive to media weights, in that a lower level of TARPs was associated with a higher volume of calls to the Quitline.

The total volume of calls to the Quitline and total TARPs both in 1997 and in 1998 are presented in Table 4A.1. The data show that the annual total TARPs for the six months in 1997 was similar to that for 12 months in 1998, thus a reduced media investment in phase two of the campaign. There were more total calls to the Quitline in phase two than in phase one.

**TABLE 4A.1 ANNUAL QUITLINE CALLS AND TARPs DATA**

<table>
<thead>
<tr>
<th></th>
<th>Calls to the Quitline</th>
<th>Total TARPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase one (May to December 1997)</td>
<td>91,659</td>
<td>2,652</td>
</tr>
<tr>
<td>Phase two (January to December 1998)</td>
<td>113,921</td>
<td>2,767</td>
</tr>
</tbody>
</table>
Figure 4A.1 plots the weekly national aggregate TARPs and call levels for 1997 and 1998. It can be seen that the schedule of television advertising activity differed between the two phases of the campaign. The media schedule in 1997 mainly consisted of a period of intense media activity following the launch of campaign television advertisements followed by a week-on/week-off regimen. In contrast, there were longer periods of low level maintenance activity through 1998 with more concentrated activity from late April to June and again from October to December.

In 1998, the largest peak in call volume was associated with public relations activity for World No Tobacco Day (on 31 May). The next highest peak in calls corresponded with the launch of the Brain and Call for help television advertisements on 22 April. Relatively low TARPs levels (below 100) were able to maintain call levels of approximately 1500 calls per week.

Conclusion

There continued to be a direct causal relationship between the amount of television advertising for the National Tobacco Campaign and the volume of calls to the Quitline in 1998. A consistent but relatively low level of television advertising activity was sufficient to sustain the volume of calls to the Quitline. The volume of calls to the Quitline was also influenced by public relations activity for World No Tobacco Day and New Year.

Despite the considerably lower investment in media activity in 1998 as compared with 1997, the volume of calls to the Quitline was highly encouraging. This is consistent with the findings of the tracking survey and it is likely that the modelling nature of the Call for help advertisement compensated for the lower TARPs level. This suggests that the Call for help advertisement is highly effective in generating calls.
Reference

Appendix 4B

National Tobacco Campaign
Continuous Tracking Survey
(1998)
PHASE 2 (VERSION 1), BASED ON ORIGINAL CATI SCRIPT

INTRODUCTION

Good afternoon/evening my name is ‘…’ from NCS Wells a social research company and we are doing research on health advertising.

I would like to speak to someone in the household 14 years old or over.

[Repeat as if new respondent]

I would like to ask you a few questions that would take about 10 minutes

QA. During the past two weeks have you seen or heard any advertising encouraging people to do things to improve their health?

Yes 1
No 2 – Skip – QD

QB. What was it about?

Do you recall any other health advertising?

QB AD TOPIC
Anti-smoking
Breast Cancer Screening/Mammograms
Cervical Cancer Screening/Pap Smear
Immunisation
Mental Health/Mental Illness
Nutrition
Osteoporosis
Other

B-OTHERS

Yes
No

QC. Which of the following age groups do you fall into? (Read Out.)

18–24 1
25–29 2
30–34 3
35–40 4
or Over 40 5
15–17 6
QD. RECORD GENDER

Male 1
Female 2

QE.

How many people in this household, including yourself, are aged 18–40 years old?
ELSE

How many people in this household, if any, are aged 18–40 years old?

1 1 –Skip – QG
2 2 –Skip – QG
3 3 –Skip – QG
4 4 –Skip – QG
5 5 –Skip – QG
6 or more 6 –Skip – QG
None 7

Thankyou for your help but we need to speak to households with at least one 18–40 year old in them.

QG. And do you smoke now or have you smoked on at least a weekly basis, at any time in the last year.

If Yes: Record as 1
If No: Record as 7

QF. And how many people aged 18 to 40, including yourself, smoke now or have ever smoked on at least a weekly basis at any time in the past year?
ELSE

QF. And does the person who is aged 18–40 years old, smoke now or have they ever smoked on at least a weekly basis at any time in the past year?

Record 1 for Yes 7 for No
ELSE

QF. And how many of the people aged 18 to 40 years old, smoke now or have ever smoked on at least a weekly basis at any time in the past year?

END

1 (YES) 1 –Skip
2 2 –Skip
3 3 –Skip
4 –Skip
5 –Skip
6 or more –Skip
No/NONE

Thank you but we need to speak to people who have smoked on at least a weekly basis in the past year.

Could I speak to that person?

*If unavailable – make an appointment*

ELSE

Could I speak to the person aged 18–40 who has smoked on at least a weekly basis in the past year, whose birthday comes next.

*If unavailable – make an appointment*

END

Yes – Continue
No – Other person refuses
No – Other person unavailable for duration

Thank you for your help

*Have you changed respondent?*

Yes (New Respondent)
No – Same as first respondent

H. What is your age?

I. Record gender of respondent

Male
Female

Q1a. During the past two weeks, have you seen any TV advertising about tobacco smoking?

Yes
No

Q1b. Please describe the ad?

*Interviewer: Probe and record below*

AD IDENTIFICATION

*Interviewer: Identify the ad without aiding awareness*
Q1c. What was the main message of that advertisement?

Probe fully for what was seen or heard – if necessary say:
Apart from quitting, what was the message?

This is a multi but we are only coding one ad

MAIN MESSAGE

- Gunk build-up in the arteries (blood vessels) 01
- Smoking causes genetic damage 02
- Smoking damages your lungs 03
- Encourage to quit 04
- Other 10

Q1d. What (if anything) was the slogan or catch phrase used in that ad?

SLOGAN

- Every cigarette is doing you damage 01
- Other 10
- NO SLOGAN / NONE 11
- Do you recall any other ads?

OTHER RECALL

- Yes 1
- No / Don’t know 2

Q2a. During the past two weeks, have you heard any radio advertising about tobacco smoking?

- Yes 1
- No 2 –Skip

Q2b. What was the main message of that advertisement?

Probe fully for what was seen or heard – if necessary say:
Apart from quitting, what was the message?

This is a multi but we are only coding one ad

MAIN MESSAGE

Gunk build-up in the arteries (blood vessels) 01
Smoking causes genetic damage 02
Smoking damages your lungs 03
Encourage to quit (AVOID) 04
Other 10

Q2c. What (if anything) was the slogan or catch phrase used in that ad?

SLOGAN

Every cigarette is doing you damage 01
Other 10
No slogan – none 11
Do you recall any other ads?

OTHER RECALL

Yes 1
No / Don’t know 2

Q3a. Do you now smoke cigarettes ...? (Read Out.)

Avoid don’t know – ask for estimate

Daily 1 –Skip
At least weekly 2 –Skip
Less than weekly 3
Not at all 4

Q3b. When did you cut down to your present level?

ELSE

Q3b. When did you quit smoking?

END

Within the last two weeks 1 –Skip
In the last month 2 –Skip
In the last six months 3 –Skip
In the last year 4 –Skip
Over one year ago 5
Always smoked at that level (or never smoked) 6
Thank you but we need to speak to people who have smoked on at least a weekly basis within the past year.

Q4a. Are you seriously considering quitting in the next six months?
   Yes 1
   No 2 –Skip

Q4b. Are you planning to quit in the next 30 days?
   Yes 1
   No 2 –Skip

Q4c. Have you set a date when you plan to quit?
   Yes 1
   No 2 –Skip

Q4d. How many days from today is your quit date?
   Record number of days until quitting (today record as 1)

Q5. A year from now, how likely is it you will be smoking? (Read Out.)
   Definitely will 1
   Probably will 2
   Might or might not 3
   Probably will not 4
   Definitely will not 5

Q6a. Have you attempted to quit smoking in the last two weeks?
   Yes 1
   No 2 –Skip

Q6b. Who or what influenced you to try to quit?
   Doctor 01
   Friends 02
   Work colleagues 03
   Family / Household 04
   Anti-Smoking campaign 05
   Nobody / Did it myself 06
   Other 10

Q8a. Has anybody at your house been trying to get you to quit during the past two weeks?
   Yes 1
   No 2 –Skip
Q8b. **What is this person’s relationship to you?**

Parent 01
Sibling 02
Child 03
Partner / Spouse 04
Flatmate / Friend 05
Other 10

Q9a. **In your opinion, which of the following two statements is nearest to the truth?**  
*(Read Out.)*

You have to smoke for several years to do any damage to your health 1
Every cigarette you smoke is doing damage to your health 2
[Do not read out] Smoking won’t do you any harm 3

Q9b. **What do you think is the likelihood of your becoming ill from your smoking, if you continue to smoke?**  
*(Read Out.)*

No likelihood 1
Not very likely 2
50/50 3
Very likely 4
Certain 5

Q10. **During the past two weeks, was there any occasion when you were about to smoke a cigarette but resisted the urge?**

Yes 1
No 2

Q11a. **During the past two weeks, how often have you thought about quitting? Would you say…** *(Read Out.)*

Several times a day 1
Once a day 2
Once every few days 3
Once a week 4
Not at all 5 –Skip
Q11b. How strong is your feeling that you should quit now?

Very strong 1
Quite strong 2
Not very strong 3
Not at all strong 4
[Don’t read] I don’t think I should quit 5

Q7a. How many cigarettes did you smoke yesterday?

Record number ______________________________

Q7b. How many cigarettes would you have smoked on a similar day two weeks ago?

Record number ______________________________

Q7c. Thinking about the cigarettes you are smoking now, did you buy them as a ...

(Read Out.)

Pack 1
Carton 2
Pouch (roll-your-own or pipe) 3 – Skip
Other 4 – Skip

Q7d. Could you tell me the cost of the (Q7c)

Record exact amount ____________________________

Make sure you record two digits for cents – eg $5 should be keyed as 500

$ ____________________

Q7f How many packs in the cartoon?

Q7g. How many cigarettes were there in the pack?

ELSE

Q7g. How many cigarettes are there in each pack?

END

Q12a. Thinking about the advertising campaign about smoking (that you recalled earlier) as a whole – Has it made you ...? (Read Out.)

More likely to quit 1
Less likely to quit 2
Made no difference 3
Q12b. Thinking about the advertising campaign as a whole – has it …? (Read Out.)

Helped you to stay quit 1
Made it more difficult to stay quit 2
Had no effect 3

Q13. Has this advertising campaign caused any discussion in your household about smoking and health?

Yes 1
No 2

[Random selection sub group]

We would like to get your opinion about specific ads used in the campaign.
I am now going to read you a description of a series of advertisements each with the same theme (some of which you told us you’d seen).

The advertisements begin with a man or woman lighting a cigarette and inhaling. When they draw smoke into their lungs we follow that smoke down their throat. In each ad, we then see a different demonstration of the effects smoking has on the body.

Then we see the smoke pass back through the throat, and as we see the person exhale, we hear a slogan and a telephone number appear on the screen.

Q14a. In one of the ads, the demonstration shows a lung, which looks like a sponge, and we see it disintegrating as we hear a voice describing what is happening.

Have you seen that ad on TV?
Yes 1
No 2 –Skip

Q14b. About how many times do you think you have seen this ad?

Record number

Q15. What action, if any, did you personally take as a result of seeing the ad? (Probe):

Anything else?

Other 50
None 99
Q16a. Did you find this ad...? *(Read Out.)*

Very thought-provoking 1
Somewhat thought-provoking 2
Not at all thought provoking 3

Q16b. Did you find this ad ...? *(Read Out.)*

Very believable 1
Somewhat believable 2
Not at all believable 3

Q16c. Did you find this ad ...? *(Read Out.)*

Very relevant to you 1
Somewhat relevant to you 2
Not at all relevant to you 3

Q16d. And did this ad encourage you to quit (stay quit) ... *(Read Out.)*

Very much 1
Somewhat 2
Not at all 3

Q17a. In one of the ads, the demonstration shows a cancerous tumour growing in the air passage of a lung, as we hear a voice explaining why this happens.

Have you seen that ad on TV?
Yes 1
No 2 –Skip

Q17b. About how many times do you think you have seen this ad?

*Record number ___________________________

Q18. What action, if any, did you personally take as a result of seeing the ad? *(Probe):*

Anything else?

Other 50
None 99

Q19a. Did you find this ad ...? *(Read Out.)*

Very thought-provoking 1
Somewhat thought provoking 2
Not at all thought provoking 3
Q19b. Did you find this ad ...? *(Read Out.)*

- Very believable 1
- Somewhat believable 2
- Not at all believable 3

Q19c. Did you find this ad ... ? *(Read Out.)*

- Very relevant to you 1
- Somewhat relevant to you 2
- Not at all relevant to you 3

Q19d. And did this ad encourage you to quit (stay quit) ... *(Read Out.)*

- Very much 1
- Somewhat 2
- Not at all 3

Q20a. In one of the ads, the demonstration shows a pair of gloved hands squeezing some white stuff out of an aorta, the main artery from the heart, and we hear a voice describing what is happening.

Have you seen that ad on TV?

- Yes 1
- No 2 –Skip

Q20b. About how many times do you think you have seen this ad?

*Record number _______________________________________

Q21. What action, if any, did you personally take as a result of seeing the ad? *(Probe):*

- Anything else?
  - Other 50
  - None 99

Q22a. Did you find this ad ...? *(Read Out.)*

- Very thought-provoking 1
- Somewhat thought-provoking 2
- Not at all thought provoking 3

Q22b. Did you find this ad ...? *(Read Out.)*

- Very believable 1
- Somewhat believable 2
- Not at all believable 3
Q22c. Did you find this ad …? *(Read Out.)*

Very relevant to you 1
Somewhat relevant to you 2
Not at all relevant to you 3

Q22d. And did this ad encourage you to quit (stay quit) … *(Read Out.)*

Very much 1
Somewhat 2
Not at all 3

Q23a. In one of the ads, the demonstration shows a brain being sliced in two and blood trickling out of one spot and we hear a voice describing what is happening.

Have you seen that ad on TV?
Yes 1
No 2 –Skip

Q23b. About how many times do you think you have seen this ad?

Record number ________________________________

Q24. What action, if any, did you personally take as a result of seeing the ad? *(Probe):*

Anything else?
Other 50
None 99

Q25a. Did you find this ad …? *(Read Out.)*

Very thought-provoking 1
Somewhat thought-provoking 2
Not at all thought provoking 3

Q25b. Did you find this ad …? *(Read Out.)*

Very believable 1
Somewhat believable 2
Not at all believable 3

Q25c. Did you find this ad …? *(Read Out.)*

Very relevant to you 1
Somewhat relevant to you 2
Not at all relevant to you 3
Q25d. And did this ad encourage you to quit (stay quit) … *(Read Out.)*

- Very much 1
- Somewhat 2
- Not at all 3

Q26a. In a related ad we see a male smoker ringing up a service to help smokers quit and we follow the phone call travelling down the telephone line to a call centre. In this ad we see brief scenes of centre staff advising smokers about quitting, before returning to the smoker who made the call. The ad ends with advice to call the Quitline number.

Have you seen that ad on TV?

- Yes 1
- No 2 –Skip

Q26b. About how many times do you think you have seen this ad?

*Record number_________________________________*

Q27. What action, if any, did you personally take as a result of seeing the ad? *(Probe):*

- Anything else? 50
- None 99

Q28a. Did you find this ad …? *(Read Out.)*

- Very thought-provoking 1
- Somewhat thought-provoking 2
- Not at all thought-provoking 3

Q28b. Did you find this ad …? *(Read Out.)*

- Very believable 1
- Somewhat believable 2
- Not at all believable 3

Q28c. Did you find this ad …? *(Read Out.)*

- Very relevant to you 1
- Somewhat relevant to you 2
- Not at all relevant to you 3

Q28d. And did this ad encourage you to quit (stay quit) … *(Read Out.)*

- Very much 1
- Somewhat 2
- Not at all 3
Are you the main income earner in your household?

Yes/Shared equally 1
No 2

Q23a. Which of the following best describes your employment status ...? (Read Out.)

Full-time employed in the workforce 1
Part-time employed in the workforce 2
Unemployed 3
Retired or on a pension 4
Full-time student 5 – Skip
Home duties 6 – Skip
Other 7

Q24. What is your usual occupation?

If retired/pension/unemployed – ask for previous occupation
Record occupation here ____________________________

Code occupation

Professional / Senior Management 1
Administrative / Technical / Middle Management / Small Business 2
Skilled / Trades / Semi-skilled / Clerical 3
Unskilled / Labourer / Shop Assistant 4
Student / Not in workforce / Home Duties 7
OTHER 8

If not main income earner:

Q25. What is the occupation of the highest income earner in your household?

If retired/pension/unemployed – ask for previous occupation
Record occupation here ____________________________

Code occupation

Professional / Senior Management 1
Administrative / Technical / Middle Management / Small Business 2
Skilled / Trades / Semi-skilled / Clerical 3
Unskilled / Labourer / Shop Assistant 4
Student / Not in workforce / Home Duties 7
OTHER 8
Thankyou very much for your co-operation with our survey.

In case my supervisor needs to contact you to check
the validity of this interview, could I please ask for your name?

In case you missed it earlier, my name is ........... from NCS Wells.
If you would like to contact my supervisor to check the validity of
this study you can call NCS Wells on:
Melbourne: (03) 9783 7200

Thankyou for your time.
Chapter Five

PRICE DISCOUNTING OF CIGARETTES DURING THE NATIONAL TOBACCO CAMPAIGN

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Abstract

Cigarette consumption is affected by a number of factors, particularly price. Depending on the outlet chosen, and whether cigarettes are purchased by the pack or the carton, consumers may be able to buy cigarettes at considerably less than the recommended retail price. Until the commencement of this study, public health specialists had no information about the extent of discounting in Australia.

In order to ascertain actual retail cigarette prices and to quantify the extent of discounting in the retail price of cigarettes, field workers collected actual cigarette price data in 55 postcode locations across Australia, covering 709 retail locations. The study also intended to estimate the impact of any price increases on cigarette consumption over the period of the National Tobacco Campaign.

This study demonstrated that, during the course of the National Tobacco Campaign June 1997 to December 1998, cigarettes were available across Australia at significantly less than recommended retail prices. This was in the context of three increases in recommended retail prices reported over the study period.

Actual retail prices were about 6% lower than recommended retail price where cigarettes were sold in packs, and around 14% lower where cigarettes were sold in cartons. Discounting was greater for larger pack sizes than for smaller sizes.

On average, petrol stations sold at slightly higher than the recommended retail price, cafes, milk bars and newsagents at between 1 and 3% less than the recommended retail price and supermarkets and tobacconists sold at between 9 and 11% lower than recommended retail price.

Lastly, there was no evidence that discounting became more prevalent or more extensive over the period of the campaign.
Introduction

Cigarette consumption is affected by a number of factors, one of the most significant of which is the price of tobacco products (US Department of Health and Human Services, 1989). While many small retailers sell cigarettes at the price recommended by manufacturers, it seems that the majority of cigarettes in Australia are sold at discount prices. Depending on the outlet chosen, and whether cigarettes are purchased by the pack or the carton, consumers may be able to buy cigarettes at considerably less than the recommended retail price. Until the commencement of this study, public health specialists had no information about the extent of discounting in Australia.¹

Given that increases in the affordability of tobacco products would have potential to undermine the effects of campaign activity, members of the Research and Evaluation Committee of the National Tobacco Campaign were interested to try to ascertain actual retail cigarette prices and to quantify the extent of discounting of cigarettes during the period of the National Tobacco Campaign.

The price of cigarettes in Australia is determined by tobacco company manufacturing and marketing costs and profit margins, by the level of government tobacco taxes, and by margins added by retailers. During the period of the Australian National Tobacco Campaign (June 1997 to December 1998), there was no increase in the 20% retail mark up on tobacco products recommended by the manufacturers, as published by the Retail Tobacconists Association (New South Wales Retail Tobacconist Association, 1997). There was, however, a small increase in taxes on cigarettes following a High Court decision ruling that stated that tobacco franchise fees were unconstitutional (High Court of Australia, 1997). Immediately following that ruling, the federal government stepped in to increase the excise duty on tobacco products, so as to pass on increased revenue to the states, compensating for the loss of tobacco franchise fee revenue. The new excise rate also included a small charge for administration, resulting in an overall increase in pre-retail cigarette prices.

¹ The Tobacco and Cigarettes Consumer Price Index Sub-Index published quarterly by the Australian Bureau of Statistics reflects changes in retail cigarette prices (Australian Bureau of Statistics, 1998). However it provides no information on absolute prices or on difference between states. Also, confidentiality requirements preclude the ABS from disclosing information that would enable public health specialists to ascertain whether collections cover the full range of currently popular brands and a sufficiently wide range of retail outlets, including discount outlets.
prices. In addition, six months after the High Court ruling, tobacco manufacturers increased wholesale prices of most of the major cigarette brands. Recommended retail prices of Australian cigarettes between March 1997 and December 1998 therefore increased by between 37 and 68 cents, an average increase of around six per cent. This compares with an increase of around three and a half percent for the equivalent period commencing in March 1996.\(^2\)

The first objective of this study was to describe cigarette prices of leading brands in Australia, to quantify the extent of discounting across the period of the National Tobacco Campaign, and to ascertain whether there were differences in:
- the extent of discounting between brands;
- the extent of discounting by different retail outlet types;
- cigarettes sold in packs versus cartons.

A second objective was to estimate the impact of the actual increases in retail prices on cigarette consumption over the period of the National Tobacco Campaign.

These objectives will be covered by this chapter.

**Method**

**SELECTION OF LOCATIONS (POSTCODES)**

Fifty-five postcode locations were selected throughout the Australian capital cities and major regional centres, roughly two for each state health department region covering that city and surrounds. The final sample included 12 postcodes in Sydney, 12 in Melbourne, seven in Brisbane and one on the Queensland Gold Coast, six in Adelaide, six in Perth, six in the Canberra, three in Hobart and one each in Launceston and Burnie in Tasmania.

**SELECTION OF RETAIL OUTLETS**

Price collectors (three in Sydney, four in Melbourne, three in Brisbane, one on the Gold Coast, a pair in Adelaide, two in Perth, one in Canberra, and one each in Hobart, Burnie and Launceston in Tasmania) were selected and trained by the study coordinator, with the assistance of a Quit campaign staff person in South Australia.

\(^2\) CPI increases in excise duty would have affected prices in February and August during both of these periods.
Western Australia and Tasmania. Collectors in Perth were employed by a commercial market research company. In other states, collectors were university students or other casual staff associated with the state cancer councils. There were numerous changes of collectors in Sydney, a couple of changes in Canberra and one change of staff in Perth.

Collectors were asked to find the supermarket and the specialist tobacconist closest to the post-office relevant to each area they were assigned. From these outlets they were asked to collect as many as possible of the prices of the cigarette packs and cartons nominated for each state, as outlined below.

In addition they were asked to collect prices – just of cigarette packs, not of cartons, in a further ten retail outlets. To select the 10 outlets, collectors adopted the following procedure, similar to that used in Houston (1986) and Mullins and Powell (1996):

*Go to the post office and face the building. If the name of the suburb you are in starts with a letter between A–K, then turn left down street. Conversely if L–Z, turn right down street.*

Visit each retailer that sells any cigarettes on that main street, and any visible from that street down side-streets. Retailers selling cigarettes include petrol stations, convenience stores, milk bars/delis/dairies, take-away food shops, supermarkets, specialist tobacconists and newsagents.³ If you reach the end of shopping centre, cross the road and visit the retailers coming back down other side of the road.

If there are no shops on the other side of the road, get into your car and keep driving (in the direction of the traffic on the post-office side of the road) until you come to another area with shops.

*On repeat visits, the same 12 shops should be visited, although the exact order in which shops were visited could be varied if time could be saved doing this (that is, work out the quickest route for covering the shops initially selected by the post office method.)*

Collectors were asked to collect as many prices as possible on up to five cigarette brands, in an order of priority based on brand preferences in each state (see Table 5.1). During the study period, the Rothmans tobacco company released a new

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³ Duty free shops were not visited
product onto the local market, Holiday 20s. This was of considerable interest because it provided an extremely cheap alternative that public health specialists felt might be attractive to young smokers. Prices for Holiday 20s were therefore subsequently collected in all states. However due to data not being available for the whole study period, Holiday 20s are not included in any of the analysis, and a separate section is provided on this product.

<table>
<thead>
<tr>
<th>TABLE 5.1 CIGARETTE BRANDS SURVEYED IN EACH STATE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
</tr>
<tr>
<td>Longbeach 40s</td>
</tr>
<tr>
<td>Winfield 25s</td>
</tr>
<tr>
<td>Benson and Hedges 25s</td>
</tr>
<tr>
<td>Peter Jackson 30s</td>
</tr>
<tr>
<td>Holiday 50s</td>
</tr>
<tr>
<td>Horizon 50s</td>
</tr>
<tr>
<td>Escort 35s</td>
</tr>
</tbody>
</table>

* Prices were also collected for cartons if available for all brands.

**WEIGHTING FACTORS — OUTLET TYPE**

The sample of retail outlets is representative of cigarette availability. However because more people buy their cigarettes at certain store types, the sample of outlets is not representative of the ‘market’. In order to control for outlets which were not appropriately represented in the sample, weighting factors were developed based on where people reported buying their last packet of cigarettes in the National Tobacco Campaign follow-up survey (Wakefield et al, 1999). Mean prices for each store type in each state were calculated and multiplied by the proportion of people in each state who reported buying their cigarettes at that store type. These weighting factors were only applied where comparisons were made of the prices between states of Australia.
CONSUMER PRICE INDEX

There were a number of small fluctuations in the consumer price index over the period of the study which were reflected in slight increases in excise levels and recommended retail prices and which may have influenced affordability. Where indicated, prices have been converted to December 1997 dollars according to the Tobacco Sub-Index of the Australian Consumer Price Index.

Results

DESCRIPTION OF RETAIL OUTLETS

A total of 709 retail locations was surveyed at the same time (a Friday or Saturday) of the same week each month from June 1997 (surveys began in May 1997 in some locations), until June 1998. The same locations were surveyed slightly less frequently from July 1998 until the end of the study period December 1998.

A wide range of outlets was surveyed in each state, as shown in Table 5.2.

RECOMMENDED RETAIL PRICES

PACKETS

Recommended retail prices for each of the selected brands were compiled for the period of the campaign using price lists contained in monthly editions of the Australian Retail Tobacconist, a trade magazine published since early this century by the New South Wales Tobacco Retailers Association (New South Wales Retail Tobacconists Association, April 1997 to December 1998).

There were three changes in the recommended retail price reported over the study period, September 1997, March 1998 and August 1998 (see Table 5.3). When there are changes in recommended retail prices, changes are made to the whole range of cigarettes, that is, when one goes up, they all go up. Between April 1997 and December 1998, recommended retail prices of a packet of cigarettes rose between 37 and 68 cents in price, an average increase of 6.3% of the May–August price.
### TABLE 5.2  NUMBER AND PERCENTAGE OF RETAIL OUTLET TYPES IN EACH STATE

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>VIC</th>
<th>QLD</th>
<th>SA</th>
<th>WA</th>
<th>TAS</th>
<th>ACT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Mixed Business (Unlicensed)</td>
<td>24 16.2%</td>
<td>16 10.4%</td>
<td>5 4.9%</td>
<td>24 22.9%</td>
<td>30 36.6%</td>
<td>10 22.2%</td>
<td>7 9.7%</td>
<td>116 16.4%</td>
</tr>
<tr>
<td>Café / Take-away</td>
<td>2 1.4%</td>
<td>15 9.7%</td>
<td>3 2.9%</td>
<td>2 1.9%</td>
<td>2 2.4%</td>
<td>3 6.7%</td>
<td>27 3.8%</td>
<td></td>
</tr>
<tr>
<td>Specialist Tobacconist</td>
<td>13 8.8%</td>
<td>20 13.0%</td>
<td>11 10.7%</td>
<td>13 12.4%</td>
<td>1 1.2%</td>
<td>7 15.6%</td>
<td>7 9.7%</td>
<td>72 10.2%</td>
</tr>
<tr>
<td>Supermarket</td>
<td>30 20.3%</td>
<td>32 20.8%</td>
<td>29 28.2%</td>
<td>33 31.4%</td>
<td>14 17.1%</td>
<td>11 24.4%</td>
<td>25 34.7%</td>
<td>174 24.5%</td>
</tr>
<tr>
<td>Newsagent</td>
<td>21 14.2%</td>
<td>20 13.0%</td>
<td>30 29.1%</td>
<td>2 1.9%</td>
<td>17 20.7%</td>
<td>10 22.2%</td>
<td>17 23.6%</td>
<td>117 16.5%</td>
</tr>
<tr>
<td>Petrol Station</td>
<td>18 12.2%</td>
<td>12 7.8%</td>
<td>12 11.7%</td>
<td>19 18.1%</td>
<td>5 6.1%</td>
<td>3 6.7%</td>
<td>16 22.2%</td>
<td>85 12.0%</td>
</tr>
<tr>
<td>Hotel</td>
<td>11 7.4%</td>
<td>16 10.4%</td>
<td>2 1.9%</td>
<td>7 6.7%</td>
<td>2 2.4%</td>
<td>0 0</td>
<td>38 5.4%</td>
<td></td>
</tr>
<tr>
<td>Convenience Store</td>
<td>4 2.7%</td>
<td>3 1.9%</td>
<td>8 7.8%</td>
<td>1 1.2%</td>
<td>16 2.3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquor Shop (Inc Drive Thru)</td>
<td>19 12.8%</td>
<td>12 7.8%</td>
<td>5 4.8%</td>
<td>7 8.5%</td>
<td>43 6.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lottery Agency</td>
<td>1 0.6%</td>
<td>3 3.7%</td>
<td>4 0.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed Business (Licensed)</td>
<td>6 4.1%</td>
<td>1 0.6%</td>
<td>7 1.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Novelty Shop</td>
<td>2 1.3%</td>
<td>3 2.9%</td>
<td>5 0.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Florist, sports club, etc)</td>
<td>4 2.6%</td>
<td>1 2.2%</td>
<td>5 0.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>148 100.0%</td>
<td>154 100.0%</td>
<td>103 100.0%</td>
<td>105 100.0%</td>
<td>82 100.0%</td>
<td>45 100.0%</td>
<td>72 100.0%</td>
<td>709 100.0%</td>
</tr>
</tbody>
</table>

### TABLE 5.3  RECOMMENDED RETAIL PRICES OF LEADING AUSTRALIAN CIGARETTE BRANDS

<table>
<thead>
<tr>
<th></th>
<th>Winfield 25s</th>
<th>Peter Jackson 30s</th>
<th>Benson &amp; Hedges 25s</th>
<th>Longbeach 40s</th>
<th>Horizon 50s</th>
<th>Holiday 50s</th>
<th>Escort 35s</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-Aug 97</td>
<td>$6.53</td>
<td>$7.22</td>
<td>$6.70</td>
<td>$8.76</td>
<td>$10.52</td>
<td>$9.65</td>
<td>$7.70</td>
</tr>
<tr>
<td>Sep 97-Feb 98</td>
<td>$6.70</td>
<td>$7.40</td>
<td>$6.90</td>
<td>$9.00</td>
<td>$10.80</td>
<td>$9.90</td>
<td>$7.90</td>
</tr>
<tr>
<td>Mar-July 98</td>
<td>$6.80</td>
<td>$7.55</td>
<td>$7.00</td>
<td>$9.16</td>
<td>$11.00</td>
<td>$10.10</td>
<td>$8.10</td>
</tr>
<tr>
<td>Aug-Dec 98</td>
<td>$6.90</td>
<td>$7.66</td>
<td>$7.10</td>
<td>$9.31</td>
<td>$11.20</td>
<td>$10.30</td>
<td>$8.25</td>
</tr>
</tbody>
</table>
Wholesale prices of tobacco products also changed three times over the period of the study (see Table 5.4). Over all brands throughout the period of the study the difference between wholesale and recommended retail prices varied from 19.63% of the wholesale price for Benson and Hedges in March–December 1998, to 19.80% of the wholesale price for Longbeach in May–August 1997.

**TABLE 5.4  WHOLESALE PRICES OF LEADING AUSTRALIAN CIGARETTE BRANDS**

<table>
<thead>
<tr>
<th></th>
<th>Winfield 25s</th>
<th>Peter Jackson 30s</th>
<th>Benson &amp; Hedges 25s</th>
<th>Longbeach 40s</th>
<th>Horizon 50s</th>
<th>Holiday 50s</th>
<th>Escort 35s</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-Aug 97</td>
<td>$5.45</td>
<td>$6.03</td>
<td>$5.60</td>
<td>$7.31</td>
<td>$8.79</td>
<td>$8.06</td>
<td>$6.43</td>
</tr>
<tr>
<td>Sep-97-Feb 98</td>
<td>$5.60</td>
<td>$6.18</td>
<td>$5.77</td>
<td>$7.52</td>
<td>$9.03</td>
<td>$8.27</td>
<td>$6.60</td>
</tr>
<tr>
<td>Mar-July 98</td>
<td>$5.68</td>
<td>$6.31</td>
<td>$5.85</td>
<td>$7.65</td>
<td>$9.19</td>
<td>$8.44</td>
<td>$6.77</td>
</tr>
<tr>
<td>Aug-Dec 98</td>
<td>$5.77</td>
<td>$6.40</td>
<td>$5.94</td>
<td>$7.78</td>
<td>$9.36</td>
<td>$8.61</td>
<td>$6.90</td>
</tr>
</tbody>
</table>

**ACTUAL RETAIL PRICES**

While recommended retail prices were only provided for cigarettes sold in packets, some retailers also sold cigarettes in cartons. Cartons of cigarettes contain between 200 and 210 cigarettes, and provide considerable savings to the consumer compared with purchasing packets individually.

**PACKETS**

Table 5.5 shows the mean actual retail prices from outlets surveyed over the period of the study.

**STATE VARIATIONS**

Longbeach 40s was the most consistently surveyed brand in all states across the survey period. Weighting factors for store types surveyed in each state, for each month from June 1997 to June 1998 were applied to mean prices allowing for comparisons to be made over time. The consumer price index was used to convert all prices to December 1997 dollars.

The price of a packet of Longbeach rose in every state between June 1997 and June 1998 (see Figure 5.1). Tasmania was the cheapest state, followed by Victoria.
The Australian Capital Territory and New South Wales were the most expensive states. Prices rose at a rate varying from 1.8 cents per month in Tasmania, to 6.6 cents per month in Western Australia.

**TABLE 5.5  ACTUAL RETAIL PRICES OF LEADING AUSTRALIAN CIGARETTE BRANDS, MAY 1997 – DEC 1998.**

<table>
<thead>
<tr>
<th></th>
<th>Winfield 25s</th>
<th>Peter Jackson 30s</th>
<th>Benson &amp; Hedges 25s</th>
<th>Longbeach 40s</th>
<th>Horizon 50s</th>
<th>Holiday 50s</th>
<th>Escort 35s</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-97</td>
<td>$6.16</td>
<td>$6.79</td>
<td>$6.39</td>
<td>$8.04</td>
<td>$9.87</td>
<td>$8.68</td>
<td>$7.33</td>
</tr>
<tr>
<td>Jul-97</td>
<td>$6.24</td>
<td>$6.79</td>
<td>$6.45</td>
<td>$8.14</td>
<td>$9.88</td>
<td>$8.94</td>
<td>$7.43</td>
</tr>
<tr>
<td>Aug-97</td>
<td>$6.26</td>
<td>$6.80</td>
<td>$6.46</td>
<td>$8.22</td>
<td>$9.94</td>
<td>$9.15</td>
<td>$7.45</td>
</tr>
<tr>
<td>Sep-97</td>
<td>$6.27</td>
<td>$6.90</td>
<td>$6.53</td>
<td>$8.27</td>
<td>$10.05</td>
<td>$9.19</td>
<td>$7.48</td>
</tr>
<tr>
<td>Jan-98</td>
<td>$6.38</td>
<td>$6.99</td>
<td>$6.60</td>
<td>$8.41</td>
<td>$10.10</td>
<td>$9.28</td>
<td>$7.56</td>
</tr>
<tr>
<td>Feb-98</td>
<td>$6.41</td>
<td>$7.08</td>
<td>$6.64</td>
<td>$8.49</td>
<td>$10.14</td>
<td>$9.47</td>
<td>$7.55</td>
</tr>
<tr>
<td>Mar-98</td>
<td>$6.47</td>
<td>$7.14</td>
<td>$6.71</td>
<td>$8.58</td>
<td>$10.30</td>
<td>$9.64</td>
<td>$7.70</td>
</tr>
<tr>
<td>Apr-98</td>
<td>$6.51</td>
<td>$7.11</td>
<td>$6.73</td>
<td>$8.58</td>
<td>$10.21</td>
<td>$9.40</td>
<td>$7.71</td>
</tr>
<tr>
<td>May-98</td>
<td>$6.51</td>
<td>$7.14</td>
<td>$6.73</td>
<td>$8.56</td>
<td>$10.26</td>
<td>$9.39</td>
<td>$7.70</td>
</tr>
<tr>
<td>Jun-98</td>
<td>$6.50</td>
<td>$7.12</td>
<td>$6.75</td>
<td>$8.52</td>
<td>$10.17</td>
<td>$9.45</td>
<td>$7.69</td>
</tr>
<tr>
<td>Jul-98</td>
<td>$6.49</td>
<td>$7.13</td>
<td>$6.72</td>
<td>$8.55</td>
<td>$10.23</td>
<td>$9.49</td>
<td>$7.61</td>
</tr>
<tr>
<td>Aug-98</td>
<td>$6.58</td>
<td>$7.21</td>
<td>$6.78</td>
<td>$8.66</td>
<td>$10.32</td>
<td>$9.53</td>
<td>$7.74</td>
</tr>
<tr>
<td>Sep-98</td>
<td>$6.60</td>
<td>$7.24</td>
<td>$6.82</td>
<td>$8.73</td>
<td>$10.36</td>
<td>$9.56</td>
<td>$7.80</td>
</tr>
<tr>
<td>Nov-98</td>
<td>$6.59</td>
<td>$7.24</td>
<td>$6.81</td>
<td>$8.70</td>
<td>$10.35</td>
<td>$9.72</td>
<td>$7.77</td>
</tr>
<tr>
<td>Dec-98</td>
<td>$6.61</td>
<td>$7.32</td>
<td>$6.79</td>
<td>$8.78</td>
<td>$10.40</td>
<td>$9.88</td>
<td>$7.79</td>
</tr>
</tbody>
</table>

**TOTAL PURCHASE PRICE**

Throughout the study period, absolute prices increased more in large pack variants than in small, although the increases per stick were less pronounced for
larger packs. To assess the overall pattern of increases for all the various brands monitored, it was decided to develop a composite index based on the total purchase price of all the brands for which prices were collected.

![Graph showing actual retail price of Longbeach weighted for outlet type and CPI (December 1997 dollars)](image)

**FIGURE 5.1** ACTUAL RETAIL PRICE OF LONGBEACH WEIGHTED FOR OUTLET TYPE AND CPI (DECEMBER 1997 DOLLARS)

The ‘total purchase price’ refers to the cost to purchase a packet of all seven of the brands studied. Figure 5.2 shows both the recommended retail and the actual retail ‘total purchase price’ from May 1997 to December 1998. Three rises in recommended retail prices over this period, resulted in rises in the total purchase price of $1.52 in September 1997, $1.11 in February 1998, and $1.01 in August 1998.

The actual retail total purchase price was significantly lower than recommended retail total purchase prices throughout the study period. The actual total purchase price also rose throughout the period of study. Least squares linear trend lines indicate that the recommended retail total purchase price rose 17.1 cents per month and the actual retail total purchase price rose at 16.5 cents per month after adjusting for variations in consumer price index.
Table 5.6 contains the mean prices for cartons of cigarettes for all store types across Australia.

CARTONS

Collectors observed that cartons tended to be sold by all tobacconists, by all large supermarkets and by newsagents and gift stores where these were very close to and in direct competition with supermarkets and tobacconists, for instance within large shopping malls.

Figure 5.3 shows the recommended retail price to purchase a packet of all of the seven brands studied, and the actual retail prices when purchased as individual packets and when purchased as cartons.

There are clearly large savings to be made by the consumer by purchasing cigarettes by the carton, with prices per pack being on average around 14% lower than packs sold at the recommended retail price. These low prices are a combination of cartons mainly being available at outlets that provide higher levels of discounting (that is, supermarkets and tobacconists), as well as lower per packet prices when purchased by the carton, regardless of store type.
TABLE 5.6 ACTUAL RETAIL CARTON PRICES OF LEADING AUSTRALIAN CIGARETTE BRANDS, MAY 1997 – DECEMBER 1998

<table>
<thead>
<tr>
<th>Month</th>
<th>Winfield 200s</th>
<th>Peter Jackson 210s</th>
<th>Benson &amp; Hedges 200s</th>
<th>Longbeach 200s</th>
<th>Horizon 200s</th>
<th>Holiday 200s</th>
<th>Escort 210s</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-97</td>
<td>$43.97</td>
<td>$43.23</td>
<td>$46.43</td>
<td>$36.77</td>
<td>$36.50</td>
<td>$34.90</td>
<td>$40.38</td>
</tr>
<tr>
<td>Jun-97</td>
<td>$43.97</td>
<td>$42.59</td>
<td>$46.63</td>
<td>$36.76</td>
<td>$36.79</td>
<td>$35.54</td>
<td>$40.90</td>
</tr>
<tr>
<td>Jul-97</td>
<td>$44.57</td>
<td>$42.36</td>
<td>$46.69</td>
<td>$36.51</td>
<td>$36.71</td>
<td>$34.09</td>
<td>$41.74</td>
</tr>
<tr>
<td>Aug-97</td>
<td>$44.78</td>
<td>$42.27</td>
<td>$46.86</td>
<td>$36.86</td>
<td>$36.05</td>
<td>$34.41</td>
<td>$41.09</td>
</tr>
<tr>
<td>Sep-97</td>
<td>$44.88</td>
<td>$43.57</td>
<td>$47.13</td>
<td>$37.46</td>
<td>$37.89</td>
<td>$34.30</td>
<td>$40.75</td>
</tr>
<tr>
<td>Oct-97</td>
<td>$46.03</td>
<td>$44.22</td>
<td>$48.14</td>
<td>$38.38</td>
<td>$37.96</td>
<td>$35.55</td>
<td>$41.37</td>
</tr>
<tr>
<td>Nov-97</td>
<td>$46.10</td>
<td>$44.71</td>
<td>$48.23</td>
<td>$38.79</td>
<td>$38.07</td>
<td>$35.12</td>
<td>$41.08</td>
</tr>
<tr>
<td>Dec-97</td>
<td>$46.48</td>
<td>$44.98</td>
<td>$48.23</td>
<td>$38.88</td>
<td>$38.01</td>
<td>$35.28</td>
<td>$40.91</td>
</tr>
<tr>
<td>Jan-98</td>
<td>$46.41</td>
<td>$44.66</td>
<td>$48.49</td>
<td>$39.05</td>
<td>$38.15</td>
<td>$35.16</td>
<td>$41.49</td>
</tr>
<tr>
<td>Feb-98</td>
<td>$46.80</td>
<td>$45.26</td>
<td>$48.81</td>
<td>$39.40</td>
<td>$38.42</td>
<td>$35.92</td>
<td>$41.01</td>
</tr>
<tr>
<td>Mar-98</td>
<td>$46.96</td>
<td>$45.61</td>
<td>$49.33</td>
<td>$39.93</td>
<td>$38.61</td>
<td>$36.05</td>
<td>$41.97</td>
</tr>
<tr>
<td>Apr-98</td>
<td>$47.24</td>
<td>$45.31</td>
<td>$49.32</td>
<td>$39.57</td>
<td>$38.48</td>
<td>$35.83</td>
<td>$42.49</td>
</tr>
<tr>
<td>May-98</td>
<td>$47.12</td>
<td>$45.74</td>
<td>$49.28</td>
<td>$39.44</td>
<td>$38.51</td>
<td>$35.66</td>
<td>$41.91</td>
</tr>
<tr>
<td>Jun-98</td>
<td>$46.96</td>
<td>$45.53</td>
<td>$49.07</td>
<td>$39.42</td>
<td>$38.47</td>
<td>$35.82</td>
<td>$41.99</td>
</tr>
<tr>
<td>Jul-98</td>
<td>$47.04</td>
<td>$45.59</td>
<td>$49.23</td>
<td>$39.57</td>
<td>$38.64</td>
<td>$36.04</td>
<td>$42.18</td>
</tr>
<tr>
<td>Aug-98</td>
<td>$47.74</td>
<td>$46.31</td>
<td>$49.66</td>
<td>$39.95</td>
<td>$38.97</td>
<td>$36.29</td>
<td>$42.57</td>
</tr>
<tr>
<td>Sep-98</td>
<td>$48.10</td>
<td>$46.61</td>
<td>$49.79</td>
<td>$40.34</td>
<td>$39.02</td>
<td>$37.75</td>
<td>$42.60</td>
</tr>
<tr>
<td>Oct-98</td>
<td>$47.88</td>
<td>$45.90</td>
<td>$49.96</td>
<td>$39.98</td>
<td>$39.22</td>
<td>$36.44</td>
<td>$42.22</td>
</tr>
<tr>
<td>Nov-98</td>
<td>$47.86</td>
<td>$45.97</td>
<td>$49.91</td>
<td>$40.04</td>
<td>$38.89</td>
<td>$36.87</td>
<td>$42.08</td>
</tr>
<tr>
<td>Dec-98</td>
<td>$47.99</td>
<td>$46.23</td>
<td>$49.60</td>
<td>$40.25</td>
<td>$38.67</td>
<td>$37.05</td>
<td>$42.29</td>
</tr>
</tbody>
</table>

DISCOUNTING

Actual average retail prices were significantly lower than recommended at all stages of the study. There were fluctuations in the amount of discount provided throughout the period of the study which were associated with delays in changing actual retail prices after increases in the recommended retail price. Based on the
difference between the recommended and actual ‘total purchase price’ the level of
discounting was around 5.75%. There were however, variations in the amount of
discounting between brands, and between store types.

![Graph showing recommended and actual retail total purchase prices with linear trend, Australia, May 1997 – December 1998, (December 1997 CPI dollars)]

**VARIATION BETWEEN BRANDS**

The amount of discounting ranged from 3.2% for a packet of Escort, up to 10.1% for a packet of Holiday 50s at various points in the study period.

Table 5.7 shows the average amount of discounting applied for each brand over the period of study. Given that there was an under-representation of discount outlets sampled compared to the share of cigarette sales these outlets have, the levels of discounting are also likely to be slightly under-numericated. Discounting was generally greater in the larger pack sizes.
TABLE 5.7  AVERAGE AMOUNT OF DISCOUNTING ON A PACKET OF CIGARETTES, MAY 1997 — DEC 1998.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Discounting on recommended retail price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winfield 25s</td>
<td>4.7%</td>
</tr>
<tr>
<td>Benson and Hedges 25s</td>
<td>4.4%</td>
</tr>
<tr>
<td>Peter Jackson 30s</td>
<td>5.6%</td>
</tr>
<tr>
<td>Escort 35s</td>
<td>4.9%</td>
</tr>
<tr>
<td>Longbeach 40s</td>
<td>6.7%</td>
</tr>
<tr>
<td>Holiday 50s</td>
<td>6.4%</td>
</tr>
<tr>
<td>Horizon 50s</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

VARIATION IN OUTLET TYPES

Table 5.8 shows the cost to purchase a packet of each brand of cigarettes studied in each retail outlet type. The range of retail outlets shown is smaller than those sampled because some brands were not surveyed in certain types of retail outlets. It is clear however that supermarkets and tobacconists were much more likely than any other sort of outlet to engage in discounting. The only outlet type where the average actual retail price was greater than the recommended retail price was petrol stations. The store types not shown here were mostly ‘non-discounting’ stores, where the actual retail price was similar to the recommended retail price.

TABLE 5.8  PRICES TO PURCHASE A PACKET OF EACH BRAND STUDIED BY STORE TYPE, JUNE 1997 — JUNE 1998.

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Price to purchase a packet of all of the brands studied</th>
<th>Discounting on recommended retail price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol Station</td>
<td>$62.69</td>
<td>+ 0.3%</td>
</tr>
<tr>
<td>(Recommended Retail Price $62.48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Café</td>
<td>$61.60</td>
<td>− 1.3%</td>
</tr>
<tr>
<td>Milk bar</td>
<td>$60.85</td>
<td>− 2.6%</td>
</tr>
<tr>
<td>Newsagent</td>
<td>$60.84</td>
<td>− 2.6%</td>
</tr>
<tr>
<td>Supermarket</td>
<td>$56.70</td>
<td>− 9.3%</td>
</tr>
<tr>
<td>Tobacconist</td>
<td>$55.57</td>
<td>− 10.9%</td>
</tr>
</tbody>
</table>
Based on the incomplete data from other store types (not shown), no others appeared to discount to the same extent as supermarkets and tobacconists.

**HOLIDAY 20s**

Table 5.9 shows actual and recommended retail prices for Holiday 20s over the period of the study. Actual retail prices were collected for Holiday 20s from July 1997, however retail prices were first published two months later.

**TABLE 5.9 RECOMMENDED AND ACTUAL RETAIL PRICES OF HOLIDAY 20s, AUSTRALIA, MAY 1997 – DECEMBER 1998.**

<table>
<thead>
<tr>
<th></th>
<th>Recommended retail price</th>
<th>Actual retail price</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-97</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Jun-97</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Jul-97</td>
<td>N/A</td>
<td>$3.72</td>
</tr>
<tr>
<td>Aug-97</td>
<td>N/A</td>
<td>$3.69</td>
</tr>
<tr>
<td>Sep-97</td>
<td>$4.15</td>
<td>$3.78</td>
</tr>
<tr>
<td>Oct-97</td>
<td>$4.15</td>
<td>$3.82</td>
</tr>
<tr>
<td>Nov-97</td>
<td>$4.15</td>
<td>$3.87</td>
</tr>
<tr>
<td>Dec-97</td>
<td>$4.15</td>
<td>$3.90</td>
</tr>
<tr>
<td>Jan-98</td>
<td>$4.15</td>
<td>$3.92</td>
</tr>
<tr>
<td>Feb-98</td>
<td>$4.15</td>
<td>$3.92</td>
</tr>
<tr>
<td>Mar-98</td>
<td>$4.25</td>
<td>$3.97</td>
</tr>
<tr>
<td>Apr-98</td>
<td>$4.25</td>
<td>$4.03</td>
</tr>
<tr>
<td>May-98</td>
<td>$4.25</td>
<td>$4.03</td>
</tr>
<tr>
<td>Jun-98</td>
<td>$4.25</td>
<td>$4.00</td>
</tr>
<tr>
<td>Jul-98</td>
<td>$4.25</td>
<td>$3.86</td>
</tr>
<tr>
<td>Aug-98</td>
<td>$4.35</td>
<td>$3.92</td>
</tr>
<tr>
<td>Sep-98</td>
<td>$4.35</td>
<td>$4.07</td>
</tr>
<tr>
<td>Oct-98</td>
<td>$4.35</td>
<td>$3.94</td>
</tr>
<tr>
<td>Nov-98</td>
<td>$4.35</td>
<td>$3.95</td>
</tr>
<tr>
<td>Dec-98</td>
<td>$4.35</td>
<td>$4.09</td>
</tr>
</tbody>
</table>
The average amount of discounting from recommended retail prices for Holiday 20s was 7.1%. This was higher than any of the other seven brands studied, and was probably a result of promotions associated with the introduction of this product into the market.

The introduction of the Holiday 20s onto the market was the first product to provide very lightweight cigarettes in a small pack size, thereby increasing affordability.

**LIKELY IMPACT OF PRICES ON CONSUMPTION**

As depicted in Figure 5.3 and set out in more detail in Table 5.10, over the period of the study, the total actual purchase price of the surveyed brands rose in real terms by 7% for packs and 6% for cartons. More than half of this rise occurred in the first six months of the study period, in the initial phase on the National Tobacco Campaign.

What impact could these sort of price rises be expected to have had on adult smoking behaviour in Australia?

The most recent available estimates of adult price sensitivity of demand for tobacco products suggests that for each 10% (real) increase in price, smoking prevalence is likely to reduce by 1.5%. Remaining smokers are likely to reduce consumption by 1%, leading to an overall 2.5% reduction in consumption of tobacco products (Centers for Disease Control and Prevention 1998). Participation in smoking by children is estimated to fall by between 5–9% for every 10% increase in price (Lewit et al, 1997).

Although prices increased around 6% overall in real terms, these increases were spread over the entire period of the study, with very small increases each February and August following indexation of excise levels. Only the 3% increase in August 97 following the change-over to Commonwealth collection of tobacco taxes on behalf of the States, might be expected to have had any impact on consumption, reducing prevalence by less than \( \frac{1}{2} \)%, and reducing overall consumption by less than 1%.

<table>
<thead>
<tr>
<th>MONTH</th>
<th>Total RRP, $97</th>
<th>Total ARP - packs, $97</th>
<th>Total ARP - cartons, $97</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-97</td>
<td>$56.84</td>
<td>$53.03</td>
<td>$49.05</td>
</tr>
<tr>
<td>Jun-97</td>
<td>$56.99</td>
<td>$53.55</td>
<td>$49.14</td>
</tr>
<tr>
<td>Jul-97</td>
<td>$56.99</td>
<td>$53.78</td>
<td>$49.07</td>
</tr>
<tr>
<td>Aug-97</td>
<td>$56.99</td>
<td>$54.18</td>
<td>$49.40</td>
</tr>
<tr>
<td>Sep-97</td>
<td>$58.75</td>
<td>$54.83</td>
<td>$50.03</td>
</tr>
<tr>
<td>Oct-97</td>
<td>$58.75</td>
<td>$55.45</td>
<td>$51.07</td>
</tr>
<tr>
<td>Nov-97</td>
<td>$58.75</td>
<td>$55.47</td>
<td>$51.10</td>
</tr>
<tr>
<td>Dec-97</td>
<td>$58.60</td>
<td>$55.51</td>
<td>$51.13</td>
</tr>
<tr>
<td>Jan-98</td>
<td>$58.60</td>
<td>$55.25</td>
<td>$51.21</td>
</tr>
<tr>
<td>Feb-98</td>
<td>$58.60</td>
<td>$55.78</td>
<td>$51.66</td>
</tr>
<tr>
<td>Mar-98</td>
<td>$59.56</td>
<td>$56.40</td>
<td>$52.04</td>
</tr>
<tr>
<td>Apr-98</td>
<td>$59.56</td>
<td>$56.10</td>
<td>$51.92</td>
</tr>
<tr>
<td>May-98</td>
<td>$59.56</td>
<td>$56.15</td>
<td>$51.81</td>
</tr>
<tr>
<td>Jun-98</td>
<td>$59.22</td>
<td>$55.73</td>
<td>$51.49</td>
</tr>
<tr>
<td>Jul-98</td>
<td>$59.22</td>
<td>$55.76</td>
<td>$51.64</td>
</tr>
<tr>
<td>Aug-98</td>
<td>$60.22</td>
<td>$56.35</td>
<td>$52.24</td>
</tr>
<tr>
<td>Sep-98</td>
<td>$60.07</td>
<td>$56.48</td>
<td>$52.64</td>
</tr>
<tr>
<td>Oct-98</td>
<td>$60.07</td>
<td>$56.51</td>
<td>$52.15</td>
</tr>
<tr>
<td>Nov-98</td>
<td>$60.07</td>
<td>$56.56</td>
<td>$52.14</td>
</tr>
<tr>
<td>Dec-98</td>
<td>$59.77</td>
<td>$56.68</td>
<td>$51.98</td>
</tr>
<tr>
<td>Increase May 97 to November 97</td>
<td>3.3%</td>
<td>4.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Increase May 97 to December 98</td>
<td>5.2%</td>
<td>6.9%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>
Discussion

VALIDITY OF ESTIMATES OF PRICES AND EXTENT OF DISCOUNTING — DIFFERENCES BETWEEN SAMPLE OF OUTLETS, AND THE MARKET

OUTLET TYPE

While retail locations were sampled randomly using the method previously described, the sample of outlets does not represent the proportion of cigarettes sold at these outlet types. There are two main data sources available on where people buy their cigarettes. Firstly, there is data collected in the National Tobacco Campaign evaluation surveys (see chapter 2), and secondly there is some industry sales volume data. Both data sources suggest that the sample drawn for the purposes of this price survey may adequately represent cigarette availability, but does not reflect where people buy their cigarettes (Table 5.11). Hotels, liquor stores and newsagencies are over-represented in the sample, while supermarkets are under-represented. The clarity of store type definition between these three data sources could possibly explain the variation between convenience stores, and the milk-bar category.

TABLE 5.11  SAMPLE OF STORE TYPES SURVEYED AND STORE TYPES WHERE PEOPLE BUY THEIR CIGARETTES.

<table>
<thead>
<tr>
<th>Industry Data (% of sales volume)</th>
<th>NTC Evaluation Surveys</th>
<th>Price Survey Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarkets</td>
<td>35%</td>
<td>38%</td>
</tr>
<tr>
<td>Tobacconists</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Petrol stations</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Convenience stores</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td>Milk-bar / deli / mixed business /café</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Newsagencies</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Hotels and clubs</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Liquor stores</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
<td>4%</td>
</tr>
</tbody>
</table>
The effect of this sampling bias is likely to slightly inflate the actual retail price of cigarettes and lower the levels of discounting seen nationally. It is unlikely, given that only the most popular brands were sampled, that smokers of particular brands would be more likely to purchase their cigarettes at particular store types. It is therefore only necessary to weight for sampling error in outlet type when undertaking comparisons between states, due to the varied sampling of store types around Australia.

STATE

The sampling procedure randomly selects 10 stores around a post office of a given locality, the number of stores surveyed in each state estimates the proportion of Australia’s smokers in that state. Using the proportion of smokers in each state capital city that responded to the NTC Evaluation Surveys (Wakefield et al, 1999) as an estimate of the proportion of Australia’s smokers in each state, then South Australia/Northern Territory is the only state where there is a significant difference in the sampling frame. Stores were slightly over sampled in South Australia in the price survey (see Table 5.12).

TABLE 5.12 PROPORTION OF OUTLETS SURVEYED AND THE PROPORTION OF SMOKERS IN EACH STATE CAPITAL CITY

<table>
<thead>
<tr>
<th></th>
<th>National Smoking Survey: proportion of smokers in each capital city</th>
<th>Price Survey Sample: proportion of adults surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW/ACT*</td>
<td>32.6% (Syd)</td>
<td>31.1%</td>
</tr>
<tr>
<td>VIC</td>
<td>24.2% (Melb)</td>
<td>21.7%</td>
</tr>
<tr>
<td>QLD</td>
<td>17.9% (Brisbane)</td>
<td>14.5%</td>
</tr>
<tr>
<td>SA/NT#</td>
<td>9.9% (Adelaide)</td>
<td>14.8%</td>
</tr>
<tr>
<td>WA</td>
<td>10.2% (Perth)</td>
<td>11.6%</td>
</tr>
<tr>
<td>TAS</td>
<td>5.2% (Tasmania)</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

* Differentiation between NSW and ACT was not made in the National Smoking Survey.
# No stores were surveyed in NT in the price survey.

Based on the price of Longbeach cigarettes, the only brand surveyed in every state, South Australia was close to the national average. Therefore the effect of slight
over-sampling of South Australian outlets is unlikely to have any effect on the results of national price trends.

**Conclusions**

This study has demonstrated that, during the course of the National Tobacco Campaign, cigarettes were available across Australia at significantly less than recommended retail prices.

Discounting was greater for large pack sizes than for smaller, with Horizon 50s subject to the deepest discounting – an average of 6.8% throughout the study period, and Benson and Hedges 25s the least, with average discounting of 4.4%.

On average, petrol stations sold at slightly higher than the recommended retail price, cafes, milk bars and newsagents at between 1 and 3% less than the recommended retail price, and supermarkets and tobacconists sold at between 9 and 11% lower than recommended retail prices.

Actual retail prices were about 6% lower than recommended retail prices where cigarettes were sold in packs, and around 14% lower where cigarettes were sold in cartons.

There is no evidence that discounting became more prevalent or more extensive over the period of the campaign.

The price increases observed over the period of this study were quite small and are likely to have made only a small contribution to the decline in smoking prevalence over the various phases of the National Tobacco Campaign. Faced with the small increases in prices each six months and in particular following the High Court ruling on tobacco franchise fees, there was obviously scope for consumers to shift to lower cost brands and outlets. Evidence of such a shift is reported in Wakefield et al (1999). Tobacco industry documents released as part of Settlement with the Minnesota Government indicate that tobacco companies seek to cushion consumers from the impact of tax increases, preferring small frequent increases to larger less frequent ones (British American Tobacco Co Ltd, 1990).

**IMPLICATIONS**

This is the first time that actual cigarette prices have been studied in Australia. It indicates that discounting is significant, with cigarettes commonly available more
than 14% below the recommended retail price in cartons sold at tobacconists, large supermarkets and other discount outlets. To reach policy targets of an average $10 for a packet of 30 cigarettes (Australian Cancer Society, National Heart Foundation, 1997), recommended retail prices would need to be well over the 10 dollar mark.

A further objective of this study, to be discussed more fully in a further report (Scollo and Boulter in preparation), was to determine whether the increases seen over the campaign period were in line with the sort of increases reflected in the cigarette and tobacco sub-index of the Australian Consumer Price Index. It is clear, however, that, while cigarette taxes and prices in Australia may be increasing in real terms, consumers are cushioned from these increases to a large extent because frequent indexing allows for very small increases. There might be scope for improving the health impact of tobacco taxes by indexing excise duty less frequently, perhaps once each year in combination with any excise increases announced in annual budgets, rather than the current twice yearly indexation that is often implemented separately from real increases in excise duty.

Finally, this report makes it clear that comparisons of tobacco prices over time and between countries will be of limited usefulness if these are based on recommended retail prices in some jurisdictions and actual prices in others.

This study has demonstrated the feasibility of monitoring actual retail cigarette prices on a wide scale, ongoing, long-term basis. While it is obviously valuable to be able to quantify one of the most important ‘input’ variables affecting tobacco consumption, price monitoring is not an inexpensive enterprise, and more economical means may need to be found to collect necessary data. This will be explored further in an upcoming paper (Scollo and Boulter in preparation). Ideally researchers should develop and adopt a protocol for measurement of actual retail prices, to enable both international comparisons and longitudinal monitoring.
References


British American Tobacco Co. Ltd. *Confidential memo and Key Area Paper: Excise*. Accepted at Board Meeting on 6/9/90, released as part of Minnesota Tobacco Litigation, Bates No. 301530412.


High Court of Australia. *Ngo Ngo Ha and Anor vs State of NSW & Ors*, High Court, August 5 1997.


Chapter Six

MONITORING OF PRINT MEDIA NEWS COVERAGE

Noelyn Tan and Jason Boulter
Centre for Behavioural Research in Cancer
Abstract

A print media search was conducted yielding a total of 1881 articles on tobacco and smoking issues from 16 major Australian newspapers for 1997. Trends were observed in the pattern of print media presence throughout the year. Increases in the number of articles being published for a particular week corresponded to major events involving tobacco and smoking issues.

The campaign was reported in the newspapers in all states and territories with one exception. Campaign-related increases in the number of articles published during the weeks of launch events were observed. It is likely that the campaign contributed to a greater awareness of tobacco and smoking issues.

State differences in the level of print media activity were also noted. Major local events involving tobacco and smoking issues had a greater impact on the newspapers from that particular state. Most states had a constant presence of tobacco and smoking issues in the print media throughout 1997.
Introduction

Most mass media based campaigns focus on paid electronic and/or print media advertising. However, the public is also exposed to messages about smoking through the news stories. The monitoring of unpaid print media coverage over the duration of the National Tobacco Campaign would give an indication of any possible impact of the campaign on raising the issue of smoking on the public agenda.

Newspaper coverage was selected for analysis rather than television or radio for two main reasons. Firstly, newspapers are generally considered as opinion leaders and set the news agenda for other mass media such as television and radio news. The second reason was simply that daily newspapers provided the highest volume and accuracy of data obtainable as compared with television and radio.

The main focus of this research was whether the campaign contributed to an environment that increased the discussion of tobacco and smoking issues. An increase in the number of newspaper articles on tobacco and smoking issues after the campaign was launched could indicate a positive outcome of putting smoking on the public agenda. As this was an exploratory study, a simple level of coding was used and the slant of the article, that is, whether it was positive (for example, supportive of tobacco control) or negative (for example, against tobacco control) was not taken into account. The main aim of this research was to detect whether the campaign encouraged greater awareness and discussion of tobacco and smoking issues. Thus, it was considered that an increase in the number of articles, regardless of their slant, would be a sufficient indication that the campaign contributed to enhancing the level of discussion on tobacco and smoking issues.

Method

All articles relating to tobacco or smoking published in 16 major Australian newspapers were obtained through a print media search for the 12 months, January to December 1997. They were supplied by a contracted media monitoring company. The 16 major newspapers were selected based on the two main criteria of having a wide circulation and state-wide coverage (as opposed to local/suburban
news). A list of the 16 newspapers is contained in Appendix 6A. A total of 1881 articles were obtained.

CODING

Each article was coded according to the publication and week in which it appeared as well as the content of the article. Three broad categories for content-type were chosen:

1. Campaign-related articles were those that depicted campaign material and/or mentioned central messages in relation to the campaign. For example, articles that contained discussions about any of the three specific health effects of smoking (clogged arteries, rotting lungs and/or damaged gene in lung cell) portrayed in the three television advertisements, would be coded as campaign-related articles. However, ‘paid’ Quit or National Tobacco Campaign advertisements were excluded.

2. Business-related articles were those that contained news of share price changes, corporate moves, etc.

3. Tobacco issues included all other articles that mentioned tobacco or smoking.

ANALYSIS AND INTERPRETATION OF FIGURES

Observations on the number and type of articles were made by looking at weekly totals. The aggregate national data was obtained by adding the weekly totals for each of the 16 newspapers. Similarly, state data was calculated by adding the weekly totals of each newspaper from each state. As articles from more than one newspaper were obtained for some states but not others, the average number of articles per newspaper per week was calculated to allow for comparisons. This was done by dividing the total number of articles from all the newspapers of each state by the number of newspapers from that state and the number of weeks in the year. A summary table of the average number of articles per newspaper per week can be found in Appendix 6B.
Results

AGGREGATE NATIONAL DATA

Figure 6.1 shows the national aggregate number of articles per week broken down by the type of article.

The largest peak in the number of articles occurred in the week of 31 July 1997 when it was announced that the Federal Government would levy a uniform Australia-wide tax on petrol, alcohol and tobacco. The next highest peak in articles corresponded with fears of a new tobacco price war due to selective price discounting by tobacco companies competing for larger market share during the week of 15 April 1997. This was followed by peaks associated with the following news stories:

- New Year campaign activity in the first week of the year (1 January);
- a smoking ban in entertainment venues and enclosed workplaces in Western Australia to protect employees from the effects of passive smoking (21 August); and
- public relations activity for World No Tobacco Day (May 31).
In the week of the campaign launch (12 June), the national aggregate number of campaign-related articles was 27. In general, the pattern of business-related articles corresponded with the pattern of articles in the other tobacco issues category. At the national aggregate level, the number of articles per week on tobacco and smoking issues never fell below ten articles.

NATIONAL NEWSPAPERS

Figure 6.2 shows the numbers of tobacco and smoking articles obtained from the two main national newspapers, *The Australian* and *The Australian Financial Review*. As the latter is a paper specialising in business issues, it is likely that business articles would be disproportionately represented in relation to the other two categories.

The largest peak for the year with 24 articles occurred in the week of 31 July when state taxes on tobacco were discussed. The next highest peak was in the week of 15 April (18 articles) corresponding with the tobacco price war.

In the week of 12 June when the campaign was launched, there were three campaign-related articles out of a total of seven articles. Business-related articles published throughout the year generally corresponded with the pattern of articles in the other tobacco issues category.
There were only three weeks in the year when no articles on tobacco and smoking issues were published in the national newspapers. This reflects a near constant presence in the national print media on tobacco and smoking issues throughout the year. A total of 273 articles for the whole year were obtained giving an average of three articles per newspaper per week.

**INDIVIDUAL STATE REPORTS**

**VICTORIA**

Figure 6.3 shows the numbers of tobacco and smoking articles obtained from the two main newspapers in Victoria, *The Age* and *The Herald Sun*. As with the national newspapers, the highest number of articles in the year (28) occurred in the week of 31 July when the state taxes on tobacco were discussed.

![Figure 6.3 VICTORIAN NEWSPAPER ARTICLES 1997](image)

In the week when the campaign was launched (12 June), 11 campaign-related articles were published out of a total of 20 articles. In the week of 10 July when the *Tumour* advertisement was launched, two campaign-related articles were published out of a total of 21. Campaign-related articles continued to be published beyond the week of the first launch and newspapers in Victoria had the most number of campaign-related articles compared with newspapers from the other states.
Business-related articles were also published fairly consistently throughout the year and corresponded with the pattern of articles in the other tobacco issues category. In general, there was at least one article on tobacco and smoking issues published every week reflecting a constant presence in the print media in Victoria on tobacco and smoking issues. In total, 497 articles were obtained for the year giving an average of five articles per newspaper per week.

NEW SOUTH WALES

Numbers of tobacco and smoking articles from the three main New South Wales newspapers, *The Daily Telegraph*, *The Sun Herald* and *The Sydney Morning Herald*, are plotted in Figure 6.4. As with the national and Victorian newspapers, the highest number of articles in the year (20) occurred in the week of 31 July corresponding with the state taxes on tobacco. This was followed by the next highest peak, in the week of 29 May (16 articles) associated with World No Tobacco Day on 31 May.

![New South Wales Newspaper Articles 1997](image)

There were four campaign-related articles (out of a total of nine) in the week of 12 June when the campaign was launched. When the *Tumour* advertisement was launched in the week of 10 July, three campaign-related articles were published (out
of a total of 13). Business-related articles appeared in a few selected weeks of the year and corresponded with peaks in articles in the other tobacco issues category.

There were only two weeks in the year when no articles on tobacco and smoking issues were published. In general, there was a near constant presence in the print media in New South Wales on tobacco and smoking issues. A total of 370 articles were obtained for the year giving an average of two articles per newspaper per week.

TASMANIA

Figure 6.5 plots the tobacco and smoking articles obtained from three Tasmanian newspapers, namely, The Mercury, The Advocate and The Examiner. In the week of 9 October, discussions on tobacco advertising in Tasmania accounted for the highest number of articles in the year (23). The next highest peak in the week of 19 June (12 articles) corresponded with reports about the tobacco industry settlement.

![Figure 6.5: Tasmania Newspaper Articles 1997](image)

In the week of the campaign launch (12 June), two campaign-related articles were published out of a total of six for that week. Although there were no business-related articles throughout the year, there was a fairly consistent number of articles
on tobacco and smoking issues published weekly. This reflected a constant presence in the print media on tobacco and smoking issues. In total, 187 articles were obtained for the year giving an average of one article per newspaper per week.

NORTHERN TERRITORY

Numbers of tobacco and smoking articles from the Centralian Advocate and the Northern Territory News are plotted in Figure 6.6. World No Tobacco Day on 31 May accounted for the highest number of articles in the year (seven) in the week of 29 May.

No campaign-related articles were published in the Northern Territory newspapers and only one business-related article was published in the year (in the week of 14 August). In approximately half the total number of weeks in the year, there were no articles on tobacco and smoking issues. There were 45 articles obtained for the year giving an average of 0.4 articles per newspaper per week.

QUEENSLAND

Figure 6.7 shows the numbers of tobacco and smoking articles from the Courier Mail. The highest number of articles in the year (eight) occurred in the
week of 15 April. This corresponded with the discussion about legal action against tobacco companies. The next highest peak in the week of 31 July (six articles) corresponded with reports on the state taxes on tobacco.

In the week of the campaign launch (12 June), three campaign-related articles were published out of a total of four. One campaign-related article was also published in the week after the launch of the Tumour advertisement (17 July). Business-related articles were published in only four weeks of the year and had a similar pattern to articles in the other tobacco issues category.

There was a relatively constant presence in the print media on tobacco and smoking issues. The pattern of print activity also showed numerous fluctuations throughout the year. The total number of articles obtained for the year was 111 giving an average of two articles per newspaper per week.

FIGURE 6.7 QUEENSLAND NEWSPAPER ARTICLES 1997

SOUTH AUSTRALIA

Numbers of tobacco and smoking articles from the Adelaide Advertiser are plotted in Figure 6.8. The debate about the role of Living Health (South Australia’s key funding body for health, arts and sports) accounted for the highest number of articles in the year (ten) in the week of 17 July. There was a higher level of print
media activity in the beginning of the year and this was associated with reports on smoking bans in restaurants in Adelaide.

![Figure 6.8 South Australia Newspaper Articles 1997](image)

**FIGURE 6.8 SOUTH AUSTRALIA NEWSPAPER ARTICLES 1997**

Only one campaign-related article (out of a total of three) was published in the week of the campaign launch (12 June). During the week of 10 July, when the *Tumour* television advertisement was launched, one out of the two articles published was campaign-related. Five business-related articles were published during 1997.

There was a fair amount of print activity on tobacco and smoking issues in South Australia throughout the year. A total of 151 articles were obtained for the year giving an average of three articles per week.

**AUSTRALIAN CAPITAL TERRITORY**

Figure 6.9 shows the numbers of tobacco and smoking articles from *The Canberra Times*. The highest number of articles (seven) occurred in the first week of the year corresponding with the debate over cigarette logos on the cricket bats of the Pakistani team. The next highest number of articles (six) occurred in the weeks of 15 April and 31 July. This corresponded with reports on the tobacco price war and the state tax on tobacco respectively.
In the week of the campaign launch (12 June), two articles were published and both were campaign-related. There were only four business-related articles in the year.

In general, there was a fair amount of print activity on tobacco and smoking issues in the Australian Capital Territory throughout the year. There were 94 articles obtained for the year giving an average of two articles per week.

WESTERN AUSTRALIA

Numbers of tobacco and smoking articles from The West Australian are plotted in Figure 6.10. The highest number of articles in the year (12) was in the week of 24 July and the next highest (eight articles) was in the week of 21 August. These were associated with reports on the ban on smoking in workplaces in Western Australia.

Out of the four articles published in the week of the campaign launch (12 June) one was campaign-related. Subsequently, one campaign-related article was published in each of the weeks of 26 June, 10 and 17 July. One business-related article was published in the week of 22 May.
Aside from six weeks in the year, there were articles on tobacco and smoking issues published weekly in The West Australian. This reflected a fair amount of print activity on tobacco and smoking issues throughout the year. A total of 153 articles were obtained for the year giving a total of three articles per week.
The level of print media activity at the national aggregate level was encouraging. The number of articles per week on tobacco and smoking issues never fell below ten for 1997. However, state variations were observed. Newspapers in Victoria had the highest level of print media activity with an average of five articles per newspaper per week. The lowest level of print media activity was in the Northern Territory which had an average of 0.4 articles per newspaper per week. The remaining states and territories were comparable with averages of two and three articles per newspaper per week.

The campaign was reported in the major newspapers in all states and territories with the exception of the Northern Territory. The most number of campaign-related articles was published in newspapers in Victoria.

Major events involving tobacco and smoking had a noticeable effect on the level of print media activity. For South Australia, Western Australia and Tasmania, local news was important in terms of accounting for the highest number of articles being published. Thus, Australians from different states had exposure to differing levels of tobacco and smoking issues in the print media.

It is difficult to assess, based on this research, whether the campaign increased the level of discussion of tobacco and smoking issues. The main reason is that the campaign did not occur in isolation, several notable events involving tobacco and smoking also took place in 1997, for example, the state taxes on tobacco.

It is likely that the campaign has played a part in creating greater awareness and discussion on tobacco and smoking issues. The data clearly show a campaign-related increase at the time of the launch of the Artery and Lung advertisements on 12 June 1997. This was evident for all states with the exception of Northern Territory which did not report on the campaign. This launch effect was also evident at the launch event of the Tumour advertisement on 16 July.

However, the level of unpaid print media coverage of the campaign was lower than expected. Other media channels such as television news and radio (for example, talk back programs) are not included here but if included in further research would show a more complete picture.

Several factors imposed limitations on this study. It is important to note that
some of the stories categorised under ‘other tobacco issues’ may have resulted from National Tobacco Campaign public relations efforts. Such efforts were to increase media coverage of smoking, some of which may not have been campaign-specific. Also because the coding used in this study was based on broad categories, the corresponding pattern between business-related articles and articles in the other tobacco issues category could have been an artefact of coding rather than a real relationship between these two categories of articles. Further, a period of only one year of articles was examined, so long-term comparisons are not possible.

Research could be undertaken to explore further the relationship between paid campaign activity and unpaid media coverage of news on smoking. It would be useful to obtain data for the years before and after to ascertain possible seasonal effects in the level of print media activity. A more complex coding classification could be used involving more content categories and the slant of the articles, whether articles were positive (that is, supportive of tobacco control) or negative (that is, against tobacco control).

Future analysis could also look at the relationship between newspaper ownership and print media activity. In Chapman (1989), the concept of “not biting the hand that feeds you” was discussed with respect to the relationship between tobacco advertising in newspapers and the editorial bias or owners’ policies regarding articles on tobacco and smoking issues. Although newspaper advertising of tobacco is banned in Australia, this relationship would still apply since tobacco companies may have non-tobacco interests, such as widely advertised food products.
Reference

Appendix 6A

LIST OF MAJOR AUSTRALIAN NEWSPAPERS

(BY STATE AND TERRITORY)
NATIONAL NEWSPAPERS

The Australian
The Australian Financial Review

VICTORIA

The Age
The Herald Sun

NEW SOUTH WALES

The Daily Telegraph
The Sun Herald
The Sydney Morning Herald

TASMANIA

The Mercury
The Advocate
The Examiner

NORTHERN TERRITORY

Centralian Advocate
Northern Territory News

QUEENSLAND

Courier Mail

SOUTH AUSTRALIA

Adelaide Advertiser

AUSTRALIAN CAPITAL TERRITORY

The Canberra Times

WESTERN AUSTRALIA

The West Australian
Appendix 6B

TABLE OF ARTICLES PER NEWSPAPER PER WEEK

(BY STATE AND TERRITORY)
<table>
<thead>
<tr>
<th></th>
<th>Average number of tobacco and smoking articles per newspaper per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>3</td>
</tr>
<tr>
<td>Victoria</td>
<td>5</td>
</tr>
<tr>
<td>New South Wales</td>
<td>2</td>
</tr>
<tr>
<td>Tasmania</td>
<td>1</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>0.4</td>
</tr>
<tr>
<td>Queensland</td>
<td>2</td>
</tr>
<tr>
<td>South Australia</td>
<td>3</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>2</td>
</tr>
<tr>
<td>Western Australia</td>
<td>3</td>
</tr>
</tbody>
</table>
Chapter Seven

ECONOMIC EVALUATION OF THE NATIONAL TOBACCO CAMPAIGN

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Abstract

The study reported in this chapter was undertaken to determine whether the resources invested in the first phase of the National Tobacco Campaign (NTC) were ‘value-for-money’ from a health sector perspective. It is important to note that the study was not undertaken to address technical efficiency issues related to the detailed design and composition of the NTC. Rather, the purpose was to address the issue of allocative efficiency, that is, whether the investment in the NTC was a ‘worthwhile’ use of limited health funds.

The federal government committed $7.1 million to the first six month phase of the NTC, making it the “most intense and longest running anti-tobacco campaign ever seen in Australia” (Hill et al, 1999, p2). In addition, the level of additional funding and ‘in kind’ support provided by the state/territory Quit campaigns and partner organisations is likely to have totalled around $1.85m. Was this resource commitment of approximately $9 million a sensible use of limited health sector resources?

The first point to note about this research question is that the NTC is not being evaluated as a stand-alone activity. The design, cost structure and effectiveness of the intervention is likely to have been very different if it could not rely on existing state/territory tobacco control infrastructure. Further, part of the Commonwealth expenditure went to upgrading the existing state/territory infrastructure to accommodate the additional load expected due to the NTC. This somewhat unique arrangement requires that the results be interpreted carefully. The project case and its comparator are not totally separate entities, but rather share a symbiotic relationship.

Second, the appraisal is undertaken from the perspective of the Commonwealth government, as well as from a broader perspective that includes the state/territory Quit campaigns and their partner organisations. This funder/provider perspective excludes costs impacting on individual smokers in seeking to quit. The impact of costs falling on individuals on the cost-effectiveness of the NTC is, however, approximated in the sensitivity analysis. This specification also eliminates consideration of significant benefits accruing to individuals (for example, cost of cigarettes; gap payments on health services; dry cleaning) and to the business sector.
(for example, absenteeism; special provisions for smokers). A broader societal perspective is likely to yield a stronger cost-effectiveness result for the NTC than that indicated by this study.

Using the NTC benchmark and follow-up survey (Wakefield et al, 1999) estimates were made of the reduction in the number of smokers that could be attributed to the NTC. This reduction in the prevalence of smoking (approximately 190,000 people) was then translated into a reduction in the number of new cases of selected diseases that could be anticipated. Diseases were chosen on the basis of the size of impact they have on the community, together with the strength of the association between smoking and disease incidence. The diseases chosen were lung cancer, chronic obstructive pulmonary disease (COPD), various cardiovascular diseases and stroke. The delay between a fall in the prevalence of the risk factor and a reduction in disease incidence was built into the analysis, together with the relative risks for ‘smokers’, ‘ex smokers’ and ‘non smokers’. The time lags incorporated were based on the literature, but erred on the side of caution (for example, 20 years for lung cancer; 10 years for COPD; and five years for CVD). A discount rate of 5% was used to express key variables in present value (PV) terms.

Benefits from the estimated reduction in disease incidence were measured in a number of ways and relate to the reference year 1997. Firstly, as the number of premature deaths that would be prevented; secondly, as the potential years of life saved to age 75 (PYLS\(^{75}\)); and thirdly, as the cost offsets in terms of the direct health care costs associated with these preventable diseases. On the basis of the assumptions used, the 1997 first phase of the NTC should prevent 920 premature deaths; achieve 3,338 additional years of life prior to age 75 (2,287 years discounted at 5%); and yield cost offsets of approximately $24.2 million.

These results suggest that the first six-month phase of the NTC should achieve substantial health status improvements and pay for itself more than twice over. Because the project case in this study (the NTC) is ‘dominant’ over the comparator (no NTC), meaningful cost-effectiveness ratios can only be expressed if the cost offsets are excluded. Ignoring the cost offsets, the incremental cost-effectiveness ratios for the NTC from the Commonwealth perspective are: $37 per quitter; $7,717 per premature death averted; and $3,105 per PYLS\(^{75}\) (discounted). From the broader health sector (public) perspective – that is, including the resource commitment by the state/territory Quit campaigns and partner organisations – the
incremental cost-effectiveness ratios are: $47 per quitter; $9,783 per premature death averted; and $3,935 per PYLS\textsuperscript{75} (discounted).

Even with the substantial cost offsets excluded, these are still impressive results. In the sensitivity analysis the results were robust to pessimistic cost and outcome variations. The study results, although indicative only, strongly suggest that the 1997 first phase of the National Tobacco Campaign was excellent ‘value-for-money’ from a variety of perspectives. The results confirm the desirability of continuing on with the NTC. One of the more outstanding aspects of the campaign concerns the value of cooperative partnerships between the federal and state/territory jurisdictions and the interested non-government organisations. A timely injection of Commonwealth funds, combined with the cooperative partnerships helped to forge a truly ‘national’ effort in tobacco control.

Subsequent economic analysis could address the economic credentials of the NTC as an ongoing program. Such analysis should also concern itself with technical efficiency issues – that is, if the NTC is to be funded on an ongoing basis, what program design would allow outcomes to be maximised with the available budget; or alternatively, would minimise resource cost for an agreed outcome. Further work is necessary to explore in more detail the value of the relative components of the NTC (and possibly of the supporting state/territory Quit programs) as a way of ensuring that it continues to be cost-effective in the long term. Any authoritative economic appraisal should also consider broadening the study perspective (to a societal perspective); including the full 31 diseases that are tobacco-attributable; including the impacts of passive smoking; and assessing the possible inclusion of unrelated health care costs in the extra years of life. The inclusion of these extra factors is likely to improve the cost-effectiveness estimates for the NTC.
Introduction

*Australia’s National Tobacco Campaign, Evaluation Report Volume One* (Hassard (ed), 1999) provided information on the background to the initiative, a detailed description of the activities involved in the campaign, together with indicators of its effectiveness. Chapter 2 of that volume (Wakefield et al, 1999) concluded that:

“... taken together, the results of these surveys provide convincing and consistent evidence that the National Tobacco Campaign has influenced smokers in the manner intended.” (p25).

Wakefield et al also provided evidence on the effectiveness of the National Tobacco Campaign (NTC) in influencing smokers’ beliefs, attitudes and awareness. They also reported quit rates and quit attempts together with data on the likely change in smoking prevalence. A conclusion that the NTC was ‘effective’, however, does not mean that it is automatically ‘efficient’. A conclusion on efficiency requires an analysis of the relationship between resources consumed by the program and the outcomes it achieved. It is quite possible for a program to be ‘effective’ but to consume resources in such a way that it is not considered ‘value-for-money’. The purpose of this chapter is to provide information on the efficiency of the NTC. In assessing outcomes the focus will move beyond health promotion outcomes (changes in knowledge, attitudes and behaviour; quit rates; and smoking prevalence changes) to improvements in health status.

In assessing efficiency, there are two related albeit distinct factors. The first is the notion of ‘allocative efficiency’. This concept addresses the question of whether a program is worthwhile (that is, ‘value-for-money’) in comparison to other uses to which the resources involved could be applied. The second is the notion of ‘technical efficiency’ which focuses on how to design and provide a chosen program. Technical efficiency involves minimising cost for a given level of output or maximising output for a given level of resources. The two efficiency concepts are related, because in ranking programs the most valid analysis involves programs that have been designed and implemented in a technically efficient way. The two concepts of efficiency also have important implications for the data and methods required for their assessment. In reporting the results of an economic appraisal it is important, therefore, to clearly define the research question and purpose of the study. Both these aspects are addressed below.
THE RESEARCH QUESTION

Defining the research question requires, as a minimum, a clear statement of the intervention and its comparator(s), together with the perspective or viewpoint from which the study is being undertaken. The choice of comparator(s) is an important issue because of its fundamental impact on the validity of the analysis. The essential question for an economic appraisal to answer is what difference the chosen intervention makes compared to what would have occurred without it (that is, maintaining the ‘status quo’ or ‘current practice’). The research question for the economic appraisal of the NTC was framed to address this fundamental issue. The choice of study perspective also has a major impact due to its role in defining the inclusion/exclusion criteria for costs and benefits. This aspect is taken up further below.

The research question was specified as:

What is the cost-effectiveness of the first phase of the National Tobacco Campaign (NTC) as an additional ‘umbrella’ initiative to the ongoing state/territory-based tobacco control activities, from the perspective of:

i) the Commonwealth government; and

ii) the Commonwealth government plus the state/territory Quit campaigns and partner organisations.

The first point to note about this research question is that the NTC is not being evaluated as a stand-alone activity. The design, cost structure and effectiveness of the intervention is likely to have been very different if it could not rely on existing state/territory tobacco control infrastructure. Further, part of the Commonwealth expenditure went to upgrading the existing state/territory infrastructure to accommodate the additional load expected due to the NTC. This somewhat unique arrangement requires that the results be interpreted carefully. The project case and its comparator are not totally separate entities, but rather share a symbiotic relationship.

Second, the focus on the Commonwealth government and state/territory Quit campaigns means that costs impacting on individual smokers are not included (except in the sensitivity analysis). Further, the focus on the health sector means that impacts outside the health sector (such as production effects in the general economy) are not addressed. This specification automatically eliminates consideration of significant benefits that would accrue to individuals (for example,
the cost of cigarettes; gap payments for health services) and to the business sector (absenteeism; special provisions for smokers). The narrower perspective taken in this initial evaluation is likely to yield a cost-effectiveness result below that which would be indicated by a full societal perspective (that is, the narrower perspective will suggest a lower value-for-money result).

Third, the study is a cost-effectiveness analysis (CEA) where outcomes are measured in physical units (for example, number of quitters; number of premature deaths prevented; life years saved to age 75) not as quality of life changes. If smoking is an activity where important quality of life issues are associated with its continuation or discontinuation, then a cost-utility analysis (CUA) may be more appropriate. This form of analysis requires the pre/post use of an effective quality of life measurement instrument, however, which was not undertaken in the data collections performed to date. The use of researcher imposed quality of life values (possibly informed by literature values if they exist) is one possibility, but does not yield a strong CUA study design.

Turning from the specification of the research question to the purpose of the study, it is important to note that the study was not undertaken to address technical efficiency issues related to the detailed design and composition of the NTC. Rather, the purpose was to address the issue of allocative efficiency, that is, whether the investment in the NTC was a ‘worthwhile’ use of limited health funds. The focus is thus on incremental analysis comparing the additional resource costs of the NTC (as a composite program) to the additional benefits that it is estimated to yield. The additional resource costs (‘incremental costs’) were calculated from:

1. expenditure by the Commonwealth on the 1997 first phase of the NTC (advertising, payments to Quit programs etc.), plus;
2. additional expenditure by the state/territory Quit campaigns and their partner organisations that can be attributed directly to the NTC (over and above the expenditures they would have incurred without the NTC initiative), minus;
3. cost offsets\(^1\) in the management of tobacco related disease that can be attributed to the NTC.

\(^1\) Cost offsets are calculated by estimating the reduction in the number of new cases of various diseases using aetiological fractions that link smoking and disease incidence. The estimated time lags between smoking cessation and incidence of disease are also incorporated.
The additional benefits (‘incremental benefits’) were calculated and expressed as follows:

1. the additional number of quitters that can be attributed to the NTC (that is, over and above those smokers who would have quit due to the ongoing activities of the state/territory Quit campaigns;
2. the additional number of premature deaths prevented, and;
3. the additional Potential Years of Life Saved (PYLS)\(^2\) due to a reduction in premature mortality from diseases attributable to tobacco.

Note that cost offsets are also a benefit, but in cost-effectiveness studies the convention is for all cost items to be grouped together as the dollar ($\$) numerator, with the outcome variable as the denominator. The project cost minus the cost offset is referred to as the ‘net cost’. The primary cost of interest in this study, therefore, is the ‘net incremental cost’.\(^3\)

The incremental costs and incremental outcomes will be expressed in three cost-effectiveness ratios: the ‘net cost per quitter’; the ‘net cost per premature death averted’; and the ‘net cost per life year saved’.\(^4\) The ‘net cost per quitter’ ratio facilitates comparison of the efficiency of the NTC with other tobacco prevention strategies that have been published. The ‘net cost per premature death averted’ and the ‘net cost PYLS’ ratios enable more broadly based comparisons with a wider array of health promotion interventions for which similar C/E ratios have been published (for example, breast and cervical cancer screening; skin cancer health promotion campaign; various immunisation programs).

**Method**

**DESCRIPTION OF THE PROJECT CASE**

In Australia anti-tobacco campaigns are developed and implemented within each state and territory as part of a tobacco control program within each jurisdiction. In addition to this the federal government and a range of non-

\(^2\) PYLS are calculated in a similar fashion to the cost offsets in 1 above.

\(^3\) A similar concept would arise on the outcome side (that is, net incremental PYLS) if the intervention gave rise to side effects that caused premature deaths.

\(^4\) Ratios will be used unless one comparator ‘dominates’ the other, that is, both saves resources and improves health status. A ratio such as ‘savings per life year’ is too difficult to interpret. It is simpler just to express the savings and health status improvements separately and/or to exclude the cost offsets from the ratios.
government organisations also undertake campaign activity. Although cooperation had occurred prior to the NTC, the full potential had not been realised. The NTC represented the first real pooling of knowledge and resources for a collaborative national anti-tobacco campaign.

A detailed description of the NTC is set out in Chapter 1 (Hill et al, 1999) of *Australia’s National Tobacco Campaign, Evaluation Report Volume One* and will not be repeated here. The following extract is intended as a reminder of the key features of the NTC and to enable this chapter to be read on a stand-alone basis.

Although largely funded by the Commonwealth, the campaign involved a high degree of collaboration with Quit programs in all jurisdictions and with non-government organisations. It provided a stimulus and an ‘umbrella’ for existing state-based tobacco control activities. The campaign involved mass media advertising and a range of promotional activities intended to extend the reach of the key advertising messages. Letters and Quit resources were sent to all Australian GPs and pharmacists to encourage their participation in providing assistance to smokers to quit. While most smokers quit without formal assistance, many do seek help and therefore, additional elements of the campaign involved distribution of Quit smoking resources, and provision of professional cessation services, principally the telephone Quitline. These are services demonstrated as increasing smokers’ chances of quitting successfully. (Centre for Behavioural Research in Cancer, 1998, p 4)

The NTC involved the following stages (refer Figure 7.1):

- *an initial education/recruitment stage* (national TV campaign; other complementary media activity; letters/kits to GPs and pharmacists; other support from non-government bodies);
- *a facilitation stage* (by state/territory Quitlines; by GPs and pharmacists; other);
- *an action stage* where smokers attempt to quit (either unaided or aided by nicotine gum or patches, etc);
- *health promotion outcomes* (awareness of educational messages; changes in attitudes, beliefs, etc; quitters)
- *health status outcomes* (changes in disease incidence and associated mortality/quality of life issues)
Educational Recruitment Stage

New – National television campaign
      – Other media outlets — radio — papers
      – Letters/kits to GPs and Pharmacists
      – Other non-government (for example, National Heart Foundation)

Facilitation Stage

– Contact Quitlines in the states/territories
– Other state/territory existing infrastructure?
– GPs and pharmacists

Action Stage

– Attempts to quit (for example, nicotine patches)

Health Promotion Outcomes

– Awareness of educational messages
– Changes in knowledge, attitudes, beliefs
– One year quit rate, Quindex\(^5\) score
– Change in smoking prevalence

Health Status Implication

– Reductions in disease incidence
– Reduction in premature deaths
– Cost offsets

FIGURE 7.1 NATIONAL CAMPAIGN PATHWAY

\(^5\) The Quindex score is a composite measure of quitting intentions and behaviour (refer Wakefield et al, 1999, p156).
In this initial assessment of phase one of the NTC, cost and outcome data is not analysed in terms of these stages. The NTC will be evaluated as a once-off total package, fully implemented in the year 1997. The time period for the calculation of costs and benefits associated with the NTC, however, will be dictated by when those events occur. The ‘quitter’ benefit, for example, is assumed to occur in the year of the project, while the reduction in disease incidence effects due to those quitters, are lagged according to the individual disease causality.

Since comparison of different programs (that is, allocative efficiency) must be made at one point in time (usually the present), the timing of program costs and benefits must be taken into account. Different programs may have different time profiles of costs and benefits. Further, the time profile of costs and benefits may also differ within a single program, depending on which design features are adopted. To account for this time profile factor, future dollar cost and benefit streams are reduced or ‘discounted’ to reflect the fact that dollars spent or saved in the future should not weigh as heavily as dollars spent or saved today (Drummond et al, 1997). This reflects the fact that individually and as a society we prefer to have dollars or resources now as opposed to later, because we can benefit from them in the interim.

Cost offsets and mortality benefits attributable to the NTC, but received in future years, are thus discounted at 5%. All expenditures by government and partner organisations associated with the NTC are assumed to occur in 1997 and no discounting of project expenditures is therefore required.

**DESCRIPTION OF THE COMPARATOR**

In this appraisal a detailed description of the current or ongoing tobacco control activities at the national and state/territory levels is not required. The NTC is a complementary activity, not a replacement activity to current practice. What is required, however, is to be able to ascertain the additional state/territory resource commitment and additional quitters attributable to the NTC. The calculation of these additional costs and benefits are detailed below in the following two sections. The calculation of the lagged disease effects (PYLL and cost offsets) does require

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6 Evaluation of the NTC as an ongoing annual program could also be undertaken, but would involve more sophisticated cohort modelling.


8 A 5% discount rate was chosen to provide comparable results with other economic appraisals undertaken in Australia. The impact of alternative discount rates is tested in the sensitivity analysis.
data on current disease treatment costs and life expectancy effects, but these are available from separate data bases referenced in the following two sections.

**MEASUREMENT OF BENEFITS**

Two key issues influence the concept of benefit in an economic appraisal. Firstly, the form of appraisal that is chosen; and secondly, the study perspective. The form of appraisal should in turn reflect the concept of benefit that is considered appropriate for the research question. Cost-effectiveness analysis is appropriate when the key benefits of the programs being compared can be encapsulated in physical measures of outcome (such as the number of quitters, deaths deferred and potential years of life saved). That is the assumption of this study.

In accordance with the viewpoint of health service provider/funder (that is, the Commonwealth government and state/territory Quit campaigns) the benefits are assumed to be:

1. the key health promotion outcome of a fall in the number of smokers;
2. the key improvement in health gain (that is, reduction in the number of premature deaths and the potential years of life saved to age 75 (PYLS75)); and
3. any offsets in the cost of providing health care services due to reductions in disease incidence.

Other forms of benefit that may be imputed as legitimate government objectives are not included in this evaluation (such as capacity building of cessation services; improvements in equity for lower socio-economic classes and/or people from non-English speaking backgrounds; and changes in knowledge/attitudes/beliefs). If the desired concept of benefit goes beyond morbidity and mortality issues, to include concepts related to equity, community empowerment or ethics, then other forms of appraisal are required. This may be satisfactorily addressed by economic techniques such as Program Budgeting and Marginal Analysis (PBMA) or the Social Audit, but may also require approaches that go beyond economic methods.
NUMBER OF QUITTERS

The number of smokers who quit is calculated by applying the estimated change in smoking prevalence to the Australian population in 1997. The demographic data is sourced from Australian Bureau of Statistics Series ‘B’ population projections (1998) classified by sex and age bands that match the smoking prevalence data. The benchmark and follow-up results for smoking prevalence are based on the enumerated sample reported in Wakefield et al (1999). The detailed smoking prevalence data set out in Table 7.1 was extracted from the NTC survey data set (Freeman, 1999). All survey data were commissioned by the Commonwealth Department of Health and Aged Care following a tender process resulting in the appointment of the Roy Morgan Research Centre to conduct the national surveys. Variations in the prevalence reduction are tested in the sensitivity analysis.

The final judgement as to whether the NTC has influenced smoking prevalence will need to be made in the light of state-based and national prevalence series, where the use of standard questions and underlying trends in prevalence leading up to the campaign launch can be interpreted. The data in Table 7.1 is the best information currently available and is supported by the second follow-up survey in November 1998 reported in chapter 2 of this volume. The follow-up survey reports a 1.8% decrease in prevalence (rather than the 1.4% assumed in this study) confirming that prevalence has stayed down through to November 1998. Given that smoking behaviour is actively promoted, it would be difficult to argue that the decreased prevalence would have been maintained if there was no campaign.

The Australian population projections, together with the estimates of the number of quitters are set out in Table 7.2. The key assumptions made in estimating the number of quitters is summarised below. Due to rounding of the ‘percentage fall’ estimates, there are minor rounding errors in the table. The total number of quitters is assumed to be approximately 190,000 people, of which 37% are females (70,000) and 63% are males (120,000).
TABLE 7.1 CHANGE IN SMOKING PREVALENCE ASSUMED DUE TO NTC

<table>
<thead>
<tr>
<th>Age Band</th>
<th>Male Benchmark</th>
<th>Male F/U</th>
<th>Male % Diff</th>
<th>Female Benchmark</th>
<th>Female F/U</th>
<th>Female % Diff</th>
<th>Total Benchmark</th>
<th>Total F/U</th>
<th>Total % Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>31.4</td>
<td>30.4</td>
<td>1.0</td>
<td>27.4</td>
<td>25.1</td>
<td>2.3</td>
<td>29.5</td>
<td>27.9</td>
<td>1.6</td>
</tr>
<tr>
<td>25-29</td>
<td>36.6</td>
<td>34.0</td>
<td>2.6</td>
<td>31.3</td>
<td>28.3</td>
<td>3.0</td>
<td>33.8</td>
<td>31.1</td>
<td>2.7</td>
</tr>
<tr>
<td>30-34</td>
<td>34.8</td>
<td>32.8</td>
<td>2.0</td>
<td>26.4</td>
<td>24.5</td>
<td>1.9</td>
<td>30.6</td>
<td>28.4</td>
<td>2.2</td>
</tr>
<tr>
<td>35-39</td>
<td>29.1</td>
<td>29.2</td>
<td>-</td>
<td>23.3</td>
<td>22.5</td>
<td>0.8</td>
<td>26.0</td>
<td>25.7</td>
<td>0.3</td>
</tr>
<tr>
<td>40-59</td>
<td>24.5</td>
<td>22.1</td>
<td>2.4</td>
<td>17.6</td>
<td>17.4</td>
<td>0.2</td>
<td>21.1</td>
<td>19.7</td>
<td>1.4</td>
</tr>
<tr>
<td>60+</td>
<td>14.0</td>
<td>12.7</td>
<td>1.3</td>
<td>10.0</td>
<td>10.2</td>
<td>0.2</td>
<td>11.9</td>
<td>11.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Total</td>
<td>26.5</td>
<td>24.7</td>
<td>1.8</td>
<td>20.5</td>
<td>19.5</td>
<td>1.0</td>
<td>23.5</td>
<td>22.1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Source: Data extracted from NTC enumerated data

TABLE 7.2 AUSTRALIAN POPULATION, 1997/98 AND ESTIMATED NUMBER OF QUITTERS

<table>
<thead>
<tr>
<th>Age Band</th>
<th>Male Pop</th>
<th>Male % Fall</th>
<th>Male Quit</th>
<th>Female Pop</th>
<th>Female % Fall</th>
<th>Female Quit</th>
<th>Total Pop</th>
<th>Total % Fall</th>
<th>Total Quit</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>958612</td>
<td>1.0</td>
<td>9586</td>
<td>923078</td>
<td>2.3</td>
<td>21230</td>
<td>1881690</td>
<td>1.6</td>
<td>30186</td>
</tr>
<tr>
<td>25-29</td>
<td>728500</td>
<td>2.6</td>
<td>18941</td>
<td>725700</td>
<td>3.0</td>
<td>21771</td>
<td>1454100</td>
<td>2.7</td>
<td>40712</td>
</tr>
<tr>
<td>30-34</td>
<td>711000</td>
<td>2.0</td>
<td>14220</td>
<td>714700</td>
<td>1.9</td>
<td>13579</td>
<td>1425700</td>
<td>2.2</td>
<td>27799</td>
</tr>
<tr>
<td>35-39</td>
<td>735800</td>
<td>-</td>
<td>0</td>
<td>741300</td>
<td>0.8</td>
<td>5930</td>
<td>1479100</td>
<td>0.3</td>
<td>5930</td>
</tr>
<tr>
<td>40-59</td>
<td>2329000</td>
<td>2.4</td>
<td>55896</td>
<td>2288900</td>
<td>0.2</td>
<td>4578</td>
<td>4617900</td>
<td>1.4</td>
<td>60474</td>
</tr>
<tr>
<td>60+</td>
<td>1340600</td>
<td>1.3</td>
<td>17428</td>
<td>1627200</td>
<td>0.2</td>
<td>3254</td>
<td>2967700</td>
<td>0.5</td>
<td>20682</td>
</tr>
<tr>
<td>Total</td>
<td>680532</td>
<td>1.8</td>
<td>122496*</td>
<td>7020878</td>
<td>1.0</td>
<td>70209*</td>
<td>1382629*</td>
<td>1.4</td>
<td>192705*</td>
</tr>
</tbody>
</table>

Source: Calculated from ABS demography data (ABS, 1998) and NTC survey data summarised in Table 7.1

Notes:
* Total may not be exact sum of component parts due to rounding error;
** These totals are the sum of male and female quitters in previous columns (not total pop x total % fall)

Summary of key assumptions for ‘number of quitters’:
1. the NTC survey estimates of the change in smoking prevalence summarised in Table 7.1 represent the additional number of quitters over
and above those smokers who would have quit due to ongoing state/territory activity;
2. the NTC estimates in Table 7.1 are confirmed quitters who will not regress (that is, the 1.4% decline in smoking prevalence would be maintained);\footnote{This assumption is supported by the second follow-up survey conducted in November 1998 (refer chapter 2 of this volume) which reports a 1.8% decline in prevalence.}
3. the NTC estimates in Table 7.1 are representative of Australia as a whole;
4. the population estimates are Australian Bureau of Statistics Series ‘B’ projections for the year 1997/98 (Australian Bureau of Statistics 1998), and;
5. the number of quitters attributable to the first phase of the NTC is approximately 190,000 people.

**CALCULATION OF POTENTIAL YEARS OF LIFE SAVED (PYLS)**

Expression of the NTC outcomes as a saving in potential years of life saved (PYLS) involves relating the change in smoking prevalence (Table 7.1) to a reduced incidence of smoking related diseases. The reduction in the number of cases that can be attributed to the intervention is then related to a fall in the costs of care (see below under costs) and to a fall in premature deaths that would otherwise have occurred. The change in the incidence of smoking related disease is calculated by a formula that utilises the population attributable fraction (PAF) concept.\footnote{Population Attributable Fractions (or aetiological fractions as they are sometimes called) assist in assessing the percentage of disease incidence that would be eradicated if a particular risk exposure were to be removed. PAFs can be calculated in various ways (English et al, 1995) and generally utilise data on the prevalence of the risk factor, together with the relative risk (RR), that is, risk of contracting the disease with exposure to the risk factor vis-à-vis non exposure.}

The fall in the number of premature deaths can be measured as the potential years of life saved (PYLS) before age 75 (PYLS\textsuperscript{75}). This relates age of death due to the specified diseases to a ‘normal’ life expectancy defined as living to age 75. This data in relation to diseases classified using the ICD-9-CM\footnote{ICD-9-CM stands for the International Classification of Diseases, Version 9, Clinical Modification.} is available from the Disease Costs and Impact Study (DCIS). This is a collaborative project between the Australian Institute of Health and Welfare (AIHW) and the Health Economics Unit of the Centre for Health Program Evaluation (Mathers et al, 1998a; 1998b; 1999a; 1999b). Person years of life lost (PYLL) for individual diseases are estimated for those dying before age 75 from the relevant disease by summing the years of life lost...
between each person’s age at death and the age of 75, taking into account death from other causes.

The relevant data for key diseases of interest are set out in Table 7.3. The diseases chosen are those for which there is a significant mortality and cost offset effect, as well as substantial evidence as to the role of smoking (English et al, 1995). The reference year for these estimates is 1989/90, the latest year for which PYLL are available for all the diseases of interest. Using 1989/90 as the reference year is likely to yield a conservative estimate of current health status implications, given the growth and ageing in the Australian population over the last decade.

The next step is the calculation of the fall in incidence (that is, new cases) of these diseases that can be attributed to the fall in the prevalence of smoking due to the NTC. The time lag between a fall in smoking prevalence and the associated reduction in disease incidence is also incorporated. The reduction in the number of new cases is then utilised to estimate the reduction in the number of premature deaths, PYLS and health care costs. This is done on the assumption that the current relationship between these variables and cases does not change (that is, the survival rate; age pattern of death; the average cost of care remain as at present).

Discounting is applied to those benefits that will occur in the future so that they can be expressed in present value terms (PV). Two-step discounting would normally be used for a situation where a stream of benefits (such as years of life saved) commences at a future point in time (say five years hence). This approach is not possible using the AIHW DCIS data, however, as the available PYLS estimates were not discounted. Thus simple discounting (only) adjusting for commencement date has been used. This will result in higher PYLS estimates than if the correct two-step discounting had been used. This discounting bias in the direction of inflated estimates will counteract the conservative effect of using 1989/90 PYLS estimates. The net effect is hard to determine. For the purposes of this initial evaluation the available PYLS estimates are quite adequate, but they will be subjected to sensitivity

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12 It is difficult to be sure of this, however, due to the various factors that are involved, that is, trends in disease incidence; survival rates; demography changes; treatment patterns; etc. Some disease PYLS estimates are available for 1993/94. Comparison between the 1989/90 and 1993/94 data for those diseases where both are available, confirms that the 1989/90 data provide reasonably accurate, albeit conservative estimates.

13 The lag between the fall in smoking prevalence and the fall in disease incidence is accounted for under simple discounting (that is, 20 yrs for lung cancer; 15 yrs for COPD; and five yrs for CVD group) but not the time period over which the extra years of life are experienced.
analysis. In this regard it is important to note that only seven of the 26 diseases that are tobacco-attributable have been included (albeit the most important seven) (Australian Institute of Health and Welfare 1996 Table A5.3 page 53). The additional data collection and analysis to include all relevant conditions were beyond the resources of this study. However it is possible to scale-up the existing results (admittedly in a fairly crude way) to give a broad order indication of the likely PYLS if all conditions were included. This is done by scaling-up the PYLS by 40% in the sensitivity analysis.

**TABLE 7.3 DEATHS AND PYLL\(^75\) DUE TO SPECIFIED DISEASES, 1989/90**

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>ICD-9-CM Codes</th>
<th>Deaths</th>
<th>PYLL(^75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung Cancer</td>
<td>162</td>
<td>6309</td>
<td>41930</td>
</tr>
<tr>
<td>COPD</td>
<td>490-492; 496</td>
<td>5645</td>
<td>17550</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>410-414</td>
<td>32825</td>
<td>127156</td>
</tr>
<tr>
<td>Stroke</td>
<td>410-414</td>
<td>12740</td>
<td>32359</td>
</tr>
<tr>
<td>Peripheral Vascular Disease</td>
<td>441-444; 440</td>
<td>3139</td>
<td>6592</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>428-429</td>
<td>4216</td>
<td>3976</td>
</tr>
<tr>
<td>Cardiac Dysrhythmias</td>
<td>426-427</td>
<td>807</td>
<td>2718</td>
</tr>
</tbody>
</table>

Source: DCIS. AIHW / CHPE collaborative project

**CALCULATION OF CHANGE IN THE NUMBER OF NEW CASES DUE TO THE NTC:**

Unlike the normal situation where there is a two group comparison for the relative risks (‘exposed’ versus ‘non exposed’) and a simple equation can be used, the smoking context provides a three group comparison (‘never smoked’; ‘ex smoker’; ‘smoker’) and more complex calculations are required. We are grateful to Professor John Hopper and Dr Mark Jenkins of the General Practice and Public Health Branch of The University of Melbourne, who wrote the spreadsheet program to facilitate those calculations.

The data utilised in those calculations are summarised in Tables 7.4 and 7.5 below. The estimates for the ‘Smokers’ in Table 7.4 are from Table 7.1 (that is, from the NTC enumerated sample, 1997). The ‘Never Smoked’ estimates are from the report by English et al (1995, p 271/2). Those estimates are for the year 1989/90,
which it is assumed provide reasonable estimates of the prevalence of those who have never smoked. The estimates in the ‘Ex Smokers’ column are derived from the other two columns, as the three fractions must sum to 1.0. The relative risk estimates in Table 7.5 are taken from the English et al (1995, p 476/7).

**TABLE 7.4 SMOKING PREVALENCE DATA FROM ACCV SURVEY (BEFORE/ AFTER INTERVENTION)**

<table>
<thead>
<tr>
<th>Before NTC</th>
<th>Never Smoked</th>
<th>Ex Smokers</th>
<th>Smokers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.391</td>
<td>0.344</td>
<td>0.265</td>
</tr>
<tr>
<td>Female</td>
<td>0.574</td>
<td>0.221</td>
<td>0.205</td>
</tr>
<tr>
<td>Total</td>
<td>0.483</td>
<td>0.282</td>
<td>0.235</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>After NTC</th>
<th>No Change</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.391</td>
<td>0.362 (+0.018)</td>
<td>0.247 (-0.018)</td>
</tr>
<tr>
<td>Female</td>
<td>0.574</td>
<td>0.231 (+0.010)</td>
<td>0.195 (-0.010)</td>
</tr>
<tr>
<td>Total</td>
<td>0.483</td>
<td>0.296 (+0.014)</td>
<td>0.221 (-0.014)</td>
</tr>
</tbody>
</table>

**TABLE 7.5 RELATIVE RISK DATA FOR SPECIFIED DISEASES**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Relative Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ex Smoker</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>M: 6.75</td>
</tr>
<tr>
<td></td>
<td>F: 5.07</td>
</tr>
<tr>
<td></td>
<td>T: 5.91</td>
</tr>
<tr>
<td>COPD</td>
<td>6.70</td>
</tr>
<tr>
<td>CVD group</td>
<td>* Coronary heart disease; heart failure; cardiac dysrhythmias</td>
</tr>
<tr>
<td></td>
<td>* Peripheral vascular disease</td>
</tr>
<tr>
<td></td>
<td>* Stroke</td>
</tr>
</tbody>
</table>

The resulting PAF estimates (for smokers and ex smokers combined) are set out in Table 7.6, together with the fall in new cases and PYLS75 estimates they give
rise to. The anticipated time lags before those benefits are experienced are also shown. These time lag estimates are conservative and are based on various sources (Lightwood et al, 1997; Surgeon General’s Report 1990; Dobson et al, 1991).

### TABLE 7.6 PAFs (SMOKERS & EX SMOKERS); PYLS\textsuperscript{75}; AND TIME LAGS:

<table>
<thead>
<tr>
<th>Diseases</th>
<th>PAF (before)</th>
<th>PAF (after)</th>
<th>% change in PAF</th>
<th>Reduction in new cases</th>
<th>PYLS\textsuperscript{75} (discounted)</th>
<th>Time Lags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>80.1 %</td>
<td>79.7 %</td>
<td>0.50 %</td>
<td>1.76 %</td>
<td>738 (278)</td>
<td>20 years</td>
</tr>
<tr>
<td>COPD</td>
<td>78.6 %</td>
<td>78.4 %</td>
<td>0.25 %</td>
<td>0.93 %</td>
<td>163 (100)</td>
<td>10 years</td>
</tr>
<tr>
<td>CVD Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• CHD et al</td>
<td>37.9 %</td>
<td>37.0 %</td>
<td>2.37 %</td>
<td>1.40 %</td>
<td>1874 (1469)</td>
<td>5 years</td>
</tr>
<tr>
<td>• PVD</td>
<td>37.3 %</td>
<td>36.8 %</td>
<td>1.34 %</td>
<td>0.63 %</td>
<td>42 (33)</td>
<td>5 years</td>
</tr>
<tr>
<td>• Stroke</td>
<td>36.8 %</td>
<td>35.8 %</td>
<td>2.72 %</td>
<td>1.61 %</td>
<td>521 (408)</td>
<td>5 years</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,338 (2,228)</td>
<td></td>
</tr>
</tbody>
</table>

### SUMMARY OF KEY ASSUMPTIONS FOR PYLS\textsuperscript{75}

1. the % change in the PAF estimates and % fall in new cases reflect the NTC estimates of the change in smoking prevalence (which are assumed to represent the additional number of quitters over and above those smokers who would have quit due to ongoing state/territory activity; and are assumed to be representative of Australia as a whole);
2. the PYLL estimates for the specified diseases are for the reference year 1989/90, but are assumed to be reasonable estimates of the potential benefit in the future (albeit conservative, given the population growth and ageing since 1989/90);
3. simple discounting (5%) is applied to the PYLS\textsuperscript{75} estimates to value the PYLS in present value terms (PV) for the reference year 1997;
4. a time lag between smoking cessation and fall in disease incidence is specifically incorporated (the time lag between disease incidence and mortality is already incorporated in the PYLS estimates);
5. the mortality benefit is measured as prevention of premature deaths (measured as PYLS to age 75);
6. only the seven major diseases are included in this preliminary evaluation, not the full thirty diseases for which a link with smoking is documented (English et al, 1995).

MEASUREMENT OF COSTS

In accordance with the research question, the focus is on those costs impacting on the Commonwealth government and state/territory Quit campaigns. More specifically, the costs include:

1. expenditure by the Commonwealth government on the 1997 first phase of the NTC (advertising; payments to Quit programs etc.); plus
2. additional expenditure by the state/territory Quit campaigns and partner organisations that can be attributed directly to the NTC (that is, over and above the expenditures they would have incurred without the NTC initiative); minus
3. any cost offsets in the management of tobacco related disease that can be attributed to the NTC.

EXPENDITURE BY THE COMMONWEALTH

In the period up to the 30 November 1997, the Commonwealth Department of Health and Family Services (now called the Commonwealth Department of Health and Aged Care) spent a total of $7.1m on this campaign. This included spending on media advertising, production of advertising materials, activities to attract unpaid media coverage about smoking and quitting; educational materials for smokers; research and evaluation; and administration and national coordination (personal communication, the Commonwealth Department of Health and Aged Care, 1999).

COST IMPACT ON STATES/TERRITORIES

During the same period, organisations such as the National Heart Foundation, state cancer councils and state-government funded Quit campaigns also conducted numerous activities aimed at encouraging and assisting experimenting and established smokers to quit. These included advertising in the media, predominantly using advertising materials produced for the National Campaign; public relations activities aimed at attracting coverage in local, state-wide or national
media; telephone counselling and courses to assist people to quit; and distribution of materials through newsletters, community and workplace displays and through health professionals. Expenditure on these activities and related administrative costs over this period totalled $3.7m. (Scollo, 1999 (unpublished))

Expenditure over the period was thought to be roughly equal to that of previous years (precise details on expenditure between April and November in previous years are not available). However, in 1997 a much greater proportion of expenditure than in previous years would have been spent on advertising broadcast and smoker counselling as opposed to production of materials, and staff and other administrative costs. This resulted both from the greater use of national advertising and educational resources, and the more efficient utilisation of services. Local telephone counselling staff for instance reported spending more time handling calls, and waited less time between callers than in previous state-based campaigns. It is not possible to quantify the additional broadcasts and the additional service utilisation, however for the purposes of this exercise it will be assumed that the value of such activities was around $1.85m or 50% of total expenditure. This is a (conservatively) high figure: the true value of such activities was probably considerably lower.

COST OFFSETS

As with the estimates for the PYLS, the calculation of the cost offsets is based on the reduction in disease incidence predicted from the fall in smoking prevalence. The same percentage fall in new cases is used (refer Table 7.6) and applied on this occasion to the estimated health care costs attributed to the seven selected diseases. Table 7.7 summarises the relevant data.

The estimate of health care costs attributed to the specified diseases is taken from the Disease Costs and Impact Study (DCIS) mentioned previously (Mathers et al, 1998a; 1998b; 1999a; 1999b). The methodology for these estimates is published elsewhere (Mathers et al, 1998a). The health sector costs are based on ‘direct costs’ only (that is, expenditure on hospital services, medical services, pharmaceuticals, allied health services and nursing homes) and do not include ‘indirect costs’ (that is, production losses due to ill health) or any dollar valuation of pain and suffering. The 1989/90 estimates were chosen, as this was the year for which data on all the diseases of interest was available. DCIS data for some of the
diseases is available for a later reference year (1993/94) and confirmed the validity of the 1989/90 estimates for the purposes of this evaluation.\textsuperscript{14}

TABLE 7.7 PERCENT CHANGE IN INCIDENT CASES DUE TO NTC; DISEASE COSTS ATTRIBUTED TO THESE DISEASES IN 1989/90; AND COST OFFSETS ADJUSTED TO PV 1997/98

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung Cancer</td>
<td>1.76 %</td>
<td>82.19</td>
<td>98.05</td>
<td>1,725,727</td>
<td>20 yrs</td>
<td>650,427</td>
</tr>
<tr>
<td>COPD</td>
<td>0.93 %</td>
<td>224.57</td>
<td>267.91</td>
<td>2,491,537</td>
<td>10 yrs</td>
<td>1,529,555</td>
</tr>
<tr>
<td>CVD group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coronary heart disease; heart failure; cardiac dysrhythmias</td>
<td>1.40 %</td>
<td>1014.0</td>
<td>1209.71</td>
<td>16,935,828</td>
<td>5 yrs</td>
<td>13,269,222</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>0.63 %</td>
<td>166.62</td>
<td>198.78</td>
<td>1,252,299</td>
<td>5 yrs</td>
<td>981,176</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.61 %</td>
<td>515.29</td>
<td>614.74</td>
<td>9,897,330</td>
<td>5 yrs</td>
<td>7,754,558</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2002.67</td>
<td>2389.19</td>
<td>32,302,721</td>
<td></td>
<td>24,184,937</td>
</tr>
</tbody>
</table>

The disease cost estimates for the year 1989/90 were inflated to 1997/98 values using the health care deflator (AIHW, 1998). The cost offset is then calculated by applying the percentage reduction in new cases for the specified diseases to the corresponding 1997/98 disease cost estimates. This calculation uses the estimate of the current average cost of care to compute future cost offsets. As for the corresponding PYLS estimates, this assumes that the current relationship between cost and incident cases does not change through time. It also assumes that the ‘average cost’ is representative of the costs of care for the prevented cases. The cost offset is then adjusted for the time period in which it is expected to occur, utilising simple discounting (5%). The discount rate of 5% is chosen as it is the preferred

\textsuperscript{14} For example, the 1989/90 estimate for lung cancer (inflated to 1993/94 prices) was $92.3M compared to the 1993/94 estimate of $98.9M. The 1989/90 estimate for stroke was $578.7M (inflated to 1993/94 prices) compared to the 1993/94 estimate of $595.5M and the 1989/90 estimate for coronary heart disease was $1138.7M (inflated) compared to the 1993/94 estimate of $1462.4M.
discount rate in most Australian cost-effectiveness studies and this will facilitate ‘value-for-money’ comparisons. Alternative discount rates of 3% and 7% are tested in the sensitivity analysis (see section 4.2. below). The time lags set out in Table 7.7 are identical to those in Table 7.6.

The disease cost estimates utilised are likely to be a conservative estimate for two reasons. First, because the reference year probably involves lower real costs of care than might be expected in the future when the savings will be realised due to changes in demography (population growth and ageing), and more expensive technology. Second, because the DCIS methodology used for the 1989/90 estimates provides a conservative estimate of current disease management costs, incorporating approximately 70% of recurrent health care expenditure (Australian Institute of Health and Welfare 1996).

Countering these conservative effects, the cost offset estimates based on the DCIS data may be overstated for two reasons. First, DCIS is based on a ‘prevalence approach’ (that is, total expenditure in 1989/90 on all existing cases in 1989/90) rather than an ‘incidence’ approach (PV of total expenditure – in 1989/90 and beyond – for complete care of all new cases in 1989/90). The prevalence/incidence distinction is relevant because health promotion programs like the NTC typically prevent new cases from occurring, rather than impact on existing disease. To the extent that disease episodes are of a short duration, prevalence-based costings give similar estimates to the incidence-based costings. In the case of our seven selected diseases, this will vary from disease to disease. Second, the disease cost estimates cover expenditures by the public sector (that is, the Commonwealth and state/local governments) as well as the private sector (that is, private health insurance, individuals, workers compensation and motor vehicle insurance). Depending on the perspective of the study, not all of the estimated cost offset might be deemed relevant for inclusion. The government share of health sector expenditure is typically around 68%, with the Commonwealth government funding two-thirds of this. From a strict Commonwealth perspective, therefore, it could be argued that only 45% of total offsets is relevant that is, will impact on Commonwealth government expenditures.

It is difficult to predict with any certainty the net effect of these offsetting

15 Of the one third non-government share, private health insurance covers approximately 35%, direct patient contributions 51% and workers compensation/ transport accident insurance 14%.
biases. For this reason the cost offset is reported separately so that its impact under alternative assumptions can be examined.

SUMMARY OF KEY ASSUMPTIONS ON COSTS AND COST OFFSETS:

1. the Commonwealth expenditure of $7.1 million in 1997 is taken as the true economic cost to the Commonwealth government for the first phase of the NTC;
2. the value of contributions from state/territory Quit campaigns and partner organisations over and above what was spent by such organisations in previous years, was estimated to total $1.85 million;
3. resource costs to quitters (for example, for nicotine gum or patches) are not included, except in the sensitivity analysis;
4. cost offsets are calculated for seven major diseases (only) and not for the full 26 diseases for which a causal relationship with smoking has been documented;
5. the direct costs of care for these seven major diseases are based on DCIS estimates for 1989/90 and inflated to the reference year for the study (1997) using the AIHW health sector deflator;
6. the full cost offset is reported in the results, although various stakeholders may wish to vary this to more accurately reflect savings impacting on their expenditures;
7. the % fall in new cases reflects the NTC estimates of the change in smoking prevalence (which are assumed to represent the additional number of quitters over and above those smokers who would have quit due to ongoing state/territory activity; and are assumed to be representative of Australia as a whole);
8. in calculating the cost offsets, a time lag between smoking cessation and the fall in disease incidence is incorporated as per the PYLS estimates;
9. simple discounting is applied to the cost offsets (5%) to value them in present value terms (PV).
Results

On the basis of the assumptions specified in the previous section, the 1997 first phase of the NTC should prevent 920 premature deaths; achieve 3,338 additional years of life prior to age 75 (2,287 years discounted at 5%); and yield total cost offsets of approximately $24.2 million (discounted at 5%). All results are reported for the reference year 1997.

From the Commonwealth perspective, these results suggest that its expenditure of $7.1 million on the NTC in 1997 should achieve substantial health status improvements and cost offsets. If the full cost offset is deemed relevant to a Commonwealth government perspective, then the NTC is likely to pay for itself more than three times over. If only those cost offsets are counted which are likely to reduce Commonwealth expenditures, then the $24.2 million reduces to approximately $10.9 million (45%) and the NTC still more than pays for itself. From a broader perspective incorporating the state/territory Quit campaign resource commitment (of approximately $1.85 million) the results are still very positive. The cost offset of $24.2 million more than doubles the NTC resource commitment of $9 million.

Despite the conservative time lags incorporated, the 5% discount rate applied and the focus on only seven of the 26 diseases causally connected to smoking, these results are impressive. Because the project case in this study (the NTC) is ‘dominant’ over the comparator (no NTC), meaningful cost-effectiveness ratios can only be expressed if the cost offsets are excluded. Ignoring the cost offsets, the incremental cost-effectiveness ratios for the NTC (reference year 1997) from the Commonwealth perspective are:

• $37 per quitter;
• $7,717 per premature death averted;
• $2,127 per PYLS\(^75\) (undiscounted); and
• $3,105 per PYLS\(^75\) (discounted).

From the broader health sector (public) perspective – ie including the resource commitment by the state/territory Quit campaigns and partner organisations – the incremental cost-effectiveness ratios are:

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16 This is because it is very difficult to interpret and utilise a ratio of the form “$ saving per life year saved”.
• $47 per quitter;
• $9,783 per premature death averted;
• $2,696 per PYLS$^{75}$ (undiscounted);
• $3,935 per PYLS$^{75}$ (discounted).

While notions of cost-effectiveness are inherently subjective and country specific, cost-effectiveness results below $30,000 per life year saved would generally be regarded favourably in Australia. Cost-effectiveness results below $10,000 per life year saved would be regarded as excellent ‘value for money,’ compared with how resources are currently being deployed in the health care sector. Even with the cost offsets excluded, the NTC yielded results of less than $10,000 per life year saved from both a Commonwealth government and broader health sector perspective. This result is even more impressive when it is remembered that the outcome measure is PYLS to age 75, not total PYLS.

The study results, although indicative only, strongly suggest that the 1997 first phase of the NTC was excellent ‘value for money’ from a variety of perspectives.

SENSITIVITY ANALYSIS

It is important in economic evaluations to subject any major parameter for which there is an element of uncertainty to sensitivity testing, in order to assess the impact of possible variations on the cost-effectiveness results. Variations in study perspective, inclusion/exclusion criteria, or project design can also be considered in the sensitivity analysis. In this initial evaluation the parameters to be assessed can be grouped together either as variations to the calculation of the benefits, variations to the calculation of the costs and variations in the discount rate. The sensitivity analysis uses the Commonwealth government perspective as the base run and explores variations to this perspective. While both optimistic and pessimistic variations are possible to the assumptions detailed above, mainly pessimistic variations are reported. The main exceptions are the discount rate (see below) and the scaling-up of the PYLS and cost offset results to estimate the potential impact of including all 26 diseases (rather than just the seven major diseases) thought to be tobacco-attributable. This is done by multiplying the PYLS and cost offset estimates for the base run by a factor of 1.4. The 40% increase reflects the preventable burden of disease associated with these conditions, together with their associated population
attributable fractions, relative to the seven major conditions already included. The results are reported as variation 14 in Table 7.8.

VARIATIONS IN THE BENEFITS

Calculation of the benefits is crucially dependent on the estimated fall in the prevalence of smoking attributable to the NTC. Uncertainty in this estimate derives from a number of sources. These include:

1. the possibility that the change in smoking prevalence attributable to the NTC may turn out to be less than 1.4% when underlying trends in prevalence are confirmed from state and national prevalence series using standard questions;
2. inadequate allowance for individuals who regress back to smoking over the period that benefits are calculated; and
3. the possibility that some of the fall in smoking prevalence might have occurred anyway due to ongoing state/territory Quit campaigns.

To account for this possible uncertainty, the fall in smoking prevalence attributed to the NTC has been reduced by 25%, 50% and 75% respectively (quite drastic reductions) to see what impact this would have on the cost-effectiveness of the program. It should be noted that variations in the assumptions about smoking prevalence lead directly to changes in all measures of benefit (that is, the cost offsets; premature deaths averted; and PYLS). Changes of this size in the PYLS estimate are easily large enough to incorporate uncertainty due to the use of simple discounting of the PYLS estimates (rather than two-step discounting). Similarly, reductions in the cost offset of 25%, 50% and 75% are more than enough to test for the impact of possible disease management changes through time.  

Another possible source of uncertainty is the time lags incorporated between changes in the risk factor exposure and disease onset. As these were deliberately set on a quite conservative basis, however, no additional testing is made for this factor. While the time lags could be incorporated on a more sophisticated basis to allow for the phase-in of benefits through time (as opposed to a given point in time) this would only improve the cost-effectiveness results still further and was not considered necessary.

17 Particularly since: i) the cost of illness estimates themselves are quite conservative; and ii) any changes in disease management through time may be cost increasing rather than cost decreasing.
### TABLE 7.8: SENSITIVITY ANALYSIS OF THE COST-EFFECTIVENESS RESULTS FOR REFERENCE YEAR 1997 (COMMONWEALTH VIEWPOINT)

<table>
<thead>
<tr>
<th>Variations in the key outcome and cost assumptions</th>
<th>Cost (PV) A$AUD millions</th>
<th>Outcomes</th>
<th>C/E result excluding cost offset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program cost</td>
<td>Cost offset</td>
<td>Net saving (cost)</td>
</tr>
<tr>
<td>Base run:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>24.2</td>
<td>17.1</td>
</tr>
<tr>
<td>Outcome Variations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) decrease estimated reduction in smokers by 25%</td>
<td>7.1</td>
<td>18.2</td>
<td>11.1</td>
</tr>
<tr>
<td>(2) decrease estimated reduction in smokers by 50%</td>
<td>7.1</td>
<td>12.1</td>
<td>5.0</td>
</tr>
<tr>
<td>(3) decrease estimated reduction in smokers by 75%</td>
<td>7.1</td>
<td>6.0</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Cost Variations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) broader perspective to add commitment ($1.85m) of state/territory Quit programs and partner organisations</td>
<td>9.0</td>
<td>24.2</td>
<td>15.2</td>
</tr>
<tr>
<td>(5) increase (4) from $1.85m to $3.7m</td>
<td>10.8</td>
<td>24.2</td>
<td>13.4</td>
</tr>
<tr>
<td>(6) broader perspective to include costs to quitters of patches/gum</td>
<td>11.9</td>
<td>24.2</td>
<td>12.3</td>
</tr>
<tr>
<td>(7) broader perspective to include both (4) and (6)</td>
<td>13.8</td>
<td>24.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Discount Rate Variations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8) use 3% rather than 5%</td>
<td>7.1</td>
<td>27.0</td>
<td>19.9</td>
</tr>
<tr>
<td>(9) use 7% rather than 5%</td>
<td>7.1</td>
<td>21.6</td>
<td>14.5</td>
</tr>
<tr>
<td>(10) use 0% rather than 5%</td>
<td>7.1</td>
<td>(see text)</td>
<td>(see text)</td>
</tr>
<tr>
<td>Combined Variations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(11) Combine (1) and (4)</td>
<td>9.0</td>
<td>18.2</td>
<td>9.2</td>
</tr>
<tr>
<td>(12) Combine (1) and (5)</td>
<td>11.9</td>
<td>18.2</td>
<td>6.3</td>
</tr>
<tr>
<td>(13) Combine (1) and (6)</td>
<td>13.8</td>
<td>18.2</td>
<td>4.4</td>
</tr>
<tr>
<td>(14) Scale-up PVLS and cost offsets</td>
<td>7.1</td>
<td>26.8</td>
<td>19.7</td>
</tr>
</tbody>
</table>
The results of varying the smoking prevalence assumptions and re-calculation of the outcome, cost and cost effectiveness ratios accordingly are shown in Table 7.8. Despite large variations in the anticipated benefits, the cost-effectiveness results are still very strong (even with cost offsets excluded from the calculations). The anticipated fall in smoking prevalence has to be reduced by almost 75% before the cost offset is less than the cost of the NTC. The ‘dominance’ of the project case in this evaluation (that is, both cost saving and produces a health gain) is therefore considered to be a robust result in relation to the outcome side.

VARIATION IN THE COSTS

The cost estimate of $7.1 million for the Commonwealth’s resource contribution to the NTC is reasonably accurate and does not need sensitivity testing for uncertainty. The additional resource contribution of $1.85 million by the state/territory Quit campaigns and their partner organisations is less certain, ranging from between $0 if one assumes no additional expenditure by partner organisations, to $3.7 million if one included all the partner organisation spending. The extreme assumption of assuming all partner organisation spending on tobacco control is attributable to the NTC, however, makes little impact on the cost-effectiveness results (refer variation (5) in Table 7.8).

There is clearly also uncertainty in the calculation of future cost offsets, but this has already been adequately assessed in the preceding section.

Broadening the study perspective still further, however, to incorporate costs to smokers is a worthwhile area to explore. Quite often the financial impact on individuals in complying with health promotion advice is considerable, particularly when summed across the population (for example, refer Carter et al, 1999) and yet is easily overlooked. Most people who attempt to quit do so on their own without recourse to formal sources of help or support (Owens & Davies, 1990; Baille, Mattick & Hall, 1994). Some smokers, however, will utilise nicotine replacement therapy to help them quit (such as nicotine patches and/or gum) and the cost of such aids is a useful cost variation to examine. In Wakefield et al (1999) it was reported that an additional 3% of smokers and recent quitters used nicotine replacement therapy (Table 2.15, p46) in response to the first phase of the NTC. This equates, Australia-wide, to an extra 97,475 people spending approximately $50 each to help themselves quit smoking – or an extra $4.8 million that could be added
on to the cost of the NTC.\textsuperscript{18} Table 7.8 demonstrates that even inclusion of an additional resource cost of this order does not diminish the strength of the NTC cost-effectiveness results (refer variation (6) in Table 7.8).

\textbf{VARIATION IN THE DISCOUNT RATE}

The discount rate impacts on those costs and outcomes spent or received in future time periods. In this evaluation, discounting was applied to the cost offsets and PYLS estimates. The impact of variations in the base discount rate of 5\% on the cost offsets and on the cost-effectiveness ratios are reported in Table 8. A higher rate of 7\% has a minor influence on the cost per PYLS (that is, increases from $3,105 to $3,545), while the lower rates of 3\% and 0\% yield marginal improvements. The impact on the present value of the cost offset involves variations of plus or minus $3 million for the 3\% and 7\% discount rates, respectively. A 0\% discount rate is not applied to the cost offset. While it might be meaningful to suggest a 0\% discount rate in relation to the receipt of health benefits, most analysts would agree it is not meaningful to suggest a 0\% discount rate in relation to costs.\textsuperscript{19} The overall impact of the discount rate variations on the NTC results is minor – the NTC remains dominant throughout.

\textsuperscript{18} The exact cost to individuals of NRT is difficult to estimate. There are large variations in the cost of NRT depending on gum versus patch, brand, strength, scheduling, seven day pack versus 14 day or 28 day packs, and pharmacist dispensing fees. The $50 estimate used is a rough approximation. No adjustment has been made for savings to individuals from reduced expenditure on cigarettes (or health service costs) which could easily far exceed the cost of NRT.

\textsuperscript{19} Discount rate values are closely linked in economic theory to discount rate concepts. Two of the more important are the Social Time Preference Rate (STPR) and the Social Opportunity Cost (SOC) rate. The STPR represents society’s preference for present as opposed to future consumption. The STPR measures the additional future consumption required to exactly compensate for postponement of a unit of present consumption. In contrast, the SOC represents the return on investment (rather than consumption) elsewhere in the economy which is displaced by the marginal public sector project. While, with fully competitive markets the two rates should converge, in practice this is problematic (due to tax and other distortions). It should not be surprising, given the existence of different concepts (and therefore different rates) that controversy arises as to whether the same rate should be used to discount costs and benefits. Benefits (that is, PYLS in our context) are often viewed as consumption and based on the STPR, while costs are seen as an investment issue based on the SOC. While arguments have been put forward as to why STPR might approach zero in certain contexts (for example, health) we are not aware of any support for the notion that SOC should be zero. For further discussion on these issues, see Department of Finance,1991; Department of Finance, 1987; Richardson, 1995; and Feldstein, 1973).

In practice the discount rate may be based on the direct or observed cost of funds. For the Commonwealth Government, this approach implies basing the discount rate on the cost of borrowing (that is, the long term bond rate) since at the margin funds are likely to be raised through borrowing rather than through additional taxation. Note this approach (widely adopted in health sector evaluations) reflects a government perspective rather than the societal perspective of the STPR and SOC.
Discussion

The purpose of this study was to examine the allocative efficiency of the first stage of the NTC implemented in 1997. The economic analysis is preliminary and scene setting, but none-the-less yielded quite robust results. From the perspective of the Commonwealth government, as the major source of additional funding that made the NTC a viable initiative, the results are very encouraging. Rarely do health promotion programs hold promise of both significant health status improvements and net resource savings. One of the outstanding aspects of the campaign is the value of cooperative partnerships between the federal and state/territory jurisdictions and some non-government organisations. A timely injection of Commonwealth funds, combined with the cooperative partnerships helped to forge a truly ‘national’ effort in tobacco control.

The results of the economic appraisal confirm the desirability of continuing on with the NTC. Subsequent economic analysis could address the economic credentials of the NTC as an ongoing program. Such analysis should also concern itself with technical efficiency issues, that is, if the NTC is to be funded on an ongoing basis, what program design would allow outcomes to be maximised with the available budget; or alternatively, what design would minimise resource cost for agreed outcomes. Further work is necessary to explore in more detail the value of the relative components of the NTC (and possibly of the supporting state/territory Quit programs) as a way of ensuring that it continues to be cost-effective in the long term.

Broadening the viewpoint of the study to include the resource contributions of the state/territory Quit programs and their partners does not diminish the dominance of the NTC compared to its comparator (no NTC). Similarly, adding in the cost of nicotine replacement therapy (NRT) for individuals, does not alter the conclusions regarding the efficiency of the NTC. It should be noted, however, that the true net cost to individuals of giving up smoking has not been estimated in this study – only the additional cost of NRT. Offsetting this expenditure would be important savings such as greater disposable income from not buying cigarettes and the reduction in medical expenses. If abstinence from smoking is sustained, these savings are likely to accrue over a substantially longer period than the NRT expenditure. A more accurate estimation of resource costs impacting on individuals,
therefore, is likely to reduce the cost utilised in the sensitivity analysis and improve
the cost-effectiveness ratios still further.

Further economic appraisal of the NTC might also take on a broader study
perspective than that reported here. Adopting the perspective of the
Commonwealth government and the Quit campaigns and their partners
automatically eliminates consideration of important benefits accruing to individuals
and to the business sector. Adoption of a societal perspective, or at least a full health
sector perspective (that is, all public and private impacts in the health sector) may
well yield an even stronger cost-effectiveness result for the NTC.

On a related note, the current study makes no provision for the effects of
passive smoking in assessing the consequences of the NTC. Since the work of
English, Holman et al (1995), much more information has appeared on the links
between disease and passive smoking (that is, the intake of second hand smoke or
environmental tobacco smoke). For example, the National Health and Medical
Research Council of Australia (NHMRC) published a review in November 1997,
based on evidence published in peer-reviewed scientific journals, linking passive
smoking to several diseases. Compared with those who live with a non smoker,
people who have never smoked but who lived with a smoker have a 30% increase
in the risk of developing lung cancer and a 24% increase in the risk of heart attack
or death from coronary heart disease. It was also reported that passive smoking
contributed to the symptoms of asthma in 46,500 Australian children and caused
lower respiratory illness in 16,300 Australian children. The conclusive evidence in
this NHMRC report warrants the inclusion of passive smoking in any more
comprehensive economic appraisal.

Finally, the economic analysis identified the likelihood of substantial cost
offsets. The notion of ‘cost offsets’ in economic evaluations needs to be carefully
interpreted. They are not usually estimates of financial cost savings immediately
realisable by governments, but rather ‘opportunity cost’ estimates that measure the
resources devoted to the treatment of preventable diseases that could be available for
the treatment of non preventable diseases. Conversion of ‘opportunity cost’ savings
into financial cost savings involves a number of additional practical and theoretical
considerations (such as separable costs; transferability of resources; budget lock-in,
etc). When these cost offsets are projected into the future, there are the additional
complications of possible changes in disease prevalence, management practice and
demography. Cost offset estimates are thus only broadly indicative of potential savings through additional prevention and/or treatment interventions.

Moreover, there is also the issue that greater longevity will lead to extra health care demands in the additional years of life, which may offset the cost offsets. Evidence from Switzerland supports this contention in relation to smoking cessation (Leu & Schaub, 1983; 1985) while other studies on smoking cessation show contradictory results (for example, Phillips et al, 1990; Hodgson, 1992). The following extract from a World Bank report (1999) provides a good summary of current knowledge on this issue:

*In any given year, on average, a smoker’s health care is likely to cost more than that of a non smoker of the same age and sex. However, because smokers tend to die earlier than non smokers, the lifetime health care costs of smokers and non smokers in high-income countries may be fairly similar. Studies that measure the lifetime health care costs of smokers and non smokers in high-income countries have reached conflicting conclusions. In the Netherlands and Switzerland, for example, smokers and non smokers have been found to have similar costs, while in the United Kingdom and the United States some studies have concluded that smoker’s lifetime costs are in fact higher. Recent reviews that take account of the growing number of tobacco-attributable diseases and other factors conclude that, overall, smoker’s lifetime costs in high-income countries are somewhat greater than those of non smokers, despite their earlier deaths. There are no such reliable studies on lifetime costs in low-income and middle-income countries.*

(World Bank, 1999, p33)

Over and above the policy issue of whether smoker’s lifetime health care costs are lower or higher than those of non smokers, there is also an evaluation methodology issue of whether such downstream effects should be included in an economic evaluation. Not surprisingly, the inclusion of such diffuse downstream effects in economic appraisals has been an issue of contention which remains unresolved (Gold et al, 1996; Drummond et al, 1997). On the one hand, health care costs in the later years of life are a clear consequence of keeping individuals alive, and we assign credit to prevention programs for life extension and cost offsets. On the other hand, it does not seem to be totally fair to assign costs to a prevention program for unrelated treatment decisions taken some years hence that should be
considered on their own merits. In considering this issue it needs to be remembered that economic evaluation as currently practised is ‘partial equilibrium’ analysis. That is to say, whilst it is recognised that any change in resource allocation includes many ripples throughout the economy, it is often assumed that individual investments are assessed against a background of ‘all else remaining constant’.

In practice what this means is that boundaries as to what costs and outcomes should be included are always drawn around economic evaluations. Thus in reality, few economic evaluations conducted in the health sector have included unrelated medical expenses in the extra years of life. This does not mean that such costs should not in principle be included – much depends on the clear specification of the research question and its various elements (particularly the study perspective). Drummond et al (1997) argue that two considerations may guide a decision about the importance of including this cost. These are the extent to which the provision of additional care in added years of life is a necessary consequence of the program being evaluated; and the availability of the data. Often it is very difficult to be more precise than an average annual per capita health expenditure that is age and sex related. When estimates such as these are included in economic evaluations they sometimes do not alter the cost-effectiveness ratios very much (Drummond et al, 1993; Bush, 1973), partly due to the impact of discounting on costs incurred many years hence. The quantitative importance of costs in added years of life, however, is likely to vary from one study to another. Meltzer (1997) raises the interesting argument that the omission of these costs will bias cost-effectiveness estimates in favour of those interventions that increase the length of life vis-à-vis those that address the quality of life.

The bottom line from this ongoing debate is probably that analysts need to assess in the context of their own study whether costs in added years of life can be ignored without seriously biasing the analysis. In this study such costs are not included. Given the empirical data summarised above from the World Bank report (World Bank, 1999), this assumption is not likely to bias the results reported. In fact, as with the omission of passive smoking, it may well lead to cost-effectiveness results that are under-playing the true efficiency of the NTC. Nonetheless, if any more authoritative study is attempted this issue should be further explored.

In closing this chapter, it is worth emphasising that the main objective of
health promotion is not to save resources and that the notion of ‘cost offsets’ needs to be kept in perspective. As argued by David Cohen:

_Economists tend to regard the primary objective of all health care activity in terms of the production of ‘health gains,’ ie making people live longer and better quality lives. Health promotion is seen as one of several alternative means of pursuing this common objective and health gains are normally achieved at a positive cost. From an economic perspective, the issue is not whether health promotion saves resources, but whether health promotion produces health gains more cost-effectively than these other alternatives._

(Cohen, 1994, p281)
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Scollo M. Compilation of financial data provided by state cancer councils, heart foundations, health departments, health promotion foundations and health professional peak bodies and industry associations. Melbourne: Centre for Behavioural Research in Cancer, Unpublished data, 1999.


Appendix A

Campaign Advertisements and Promotional Material
30 sec Television Commercial  

Artery

**VIDEO**

UNABLE TO FIND MATCHES, A YOUNG MAN LIGHTS HIS FIRST CIGARETTE OF THE DAY FROM THE STOVE.

AS HE INHALES, WE FOLLOW THE SWIRLING SMOKE PAST HIS LIPS AND DOWN HIS TRACHEA.

AGAINST A DARK BACKGROUND WE SEE A SECTION OF HUMAN AORTA ON A KIDNEY DISH.

A DOCTOR’S HAND PICKS IT UP AND SQUEEZES ALONG ITS LENGTH. YELLOW CHEESY ‘GUNK’ COMES OUT LIKE TOOTHPASTE.

HE FINISHES SQUEEZING AND LAYS THE ARTERY DOWN.

AS OUR SMOKER EXHALES, WE REVERSE BACK UP HIS THROAT TO SEE HIM PUFF AWAY BLISSFULLY UNAWARE.

**Audio**

VO: Every cigarette is doing you damage.

This is part of an aorta, the main artery from the heart.

Smoking makes the artery walls sticky and collect dangerous deposits.

This much was found in the aorta of a typical smoker ... aged thirty-two.

Every cigarette is doing you damage.

SUPER: EVERY CIGARETTE IS DOING YOU DAMAGE. QUIT 131 848. THE NATIONAL TOBACCO CAMPAIGN. A FEDERAL, STATE AND TERRITORY HEALTH INITIATIVE.
### 30 sec Television Commercial Lung

<table>
<thead>
<tr>
<th>VIDEO</th>
<th>Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A LONE WOMAN HAVING A SMOKE BREAK OUTSIDE AN OFFICE ON A WET WINDY DAY. SHE CUPS HER HANDS TO SHIELD HER LIGHTER FROM THE WIND.</td>
<td></td>
</tr>
<tr>
<td>AS SHE INHALES WE FOLLOW THE SMOKE THROUGH HER LIPS AND DOWN HER TRACHEA INTO DARKNESS.</td>
<td>VO: Every cigarette is doing you damage.</td>
</tr>
<tr>
<td>WE ENTER HER LUNGS, TRAVELLING THROUGH EVER-SMALLER SPACES AND SETTLING ON A LANDSCAPE OF DELICATE LUNG TISSUE, LIKE THE FINE TEXTURE OF A SPONGE.</td>
<td>Lungs are like sponges, with millions of tiny air sacs for transferring oxygen.</td>
</tr>
<tr>
<td>AS SMOKE IS PULLED AND PUSHED THROUGH IT, WE SEE THE MEMBRANE BEING EATEN AWAY, CREATING UGLY, BLACK, TAR-RIMMED CHAMBERS.</td>
<td>Every breath of tobacco smoke, attacks them.</td>
</tr>
<tr>
<td>THE ‘ROTTING’ CONTINUES. THE LUNG IS TURNING GREY/BROWN.</td>
<td>No wonder smokers feel short of breath; their lungs are rotting.</td>
</tr>
<tr>
<td>WE REVERSE BACK UP THE TRACHEA AND OUT OF OUR SMOKER’S MOUTH TO SEE HER STILL PUFFING AWAY.</td>
<td>Every cigarette is doing you damage.</td>
</tr>
</tbody>
</table>

**SUPER:** EVERY CIGARETTE IS DOING YOU DAMAGE. QUIT 131 848. 
THE NATIONAL TOBACCO CAMPAIGN. 
A FEDERAL, STATE AND TERRITORY HEALTH INITIATIVE.
**30 sec Television Commercial  **

**Tumour**

**VIDEO**

A MAN AT A BUS STOP SEES HIS BUS APPROACHING AND SMOKES QUICKLY TO FINISH HIS CIGARETTE.

AS HE INHALES, WE FOLLOW THE SMOKE DOWN HIS TRACHEA INTO HIS LUNGS.

WE SETTLE AT A JUNCTION IN HIS AIRWAY AND WATCH SMOKE PASSING THROUGH.

CUT TO CANCER GROWING. THE TUMOUR SPREADS THROUGH THE AIRWAY.

WE REVERSE BACK UP THE TRACHEA AND OUT TO SEE OUR SMOKER STILL PUFFING AWAY AS HIS BUS ARRIVES.

**SUPER: EVERY CIGARETTE IS DOING YOU DAMAGE. QUIT 131 848.**

**THE NATIONAL TOBACCO CAMPAIGN. A FEDERAL, STATE AND TERRITORY HEALTH INITIATIVE.**

**Audio**

VO: Every cigarette is doing you damage.

New research shows how tobacco smoke attacks a vital gene which protects lung cells from cancer.

One damaged cell is all it takes to start lung cancer growing.

Every cigarette is doing you damage.
30 sec Television Commercial Brain

**VIDEO**

A WOMAN HAVING A SMOKE IN HER BACK YARD. SHE LOOKS AT HER CHILDREN PLAYING INSIDE.

AS SHE INHALES, WE FOLLOW THE SMOKE DOWN HER TRACHEA.

MIX TO A BRAIN BEING PLACED ON A SURGICAL TABLE.

GLOVED HANDS PICK UP A SURGICAL KNIFE.

WE CUT AWAY TO THE SURGEON’S FACE DURING THE CUT.

THE CUT SECTION IS PULLED ASIDE AND DAMAGED BRAIN TISSUE OOZES FROM THE AREA OF THE INFRACTION.

WE EXIT AS THE WOMAN EXHALES TO SEE HER STILL SMOKING AWAY.

**SUPER: EVERY CIGARETTE IS DOING YOU DAMAGE. QUIT 131 848. THE NATIONAL TOBACCO CAMPAIGN. A FEDERAL, STATE AND TERRITORY HEALTH INITIATIVE.**

**Audio**

VO: Every cigarette is doing you damage.

Smoking creates blood clots which can cause strokes.

Some strokes kill, blind or paralyse...

Others you don’t even know you’re having.

This is the result of a minor stroke in a smoker...aged thirty-eight.

Every cigarette is doing you damage.
30 sec Television Commercial
Call for help

VIDEO

‘SMOKER MOMENT’ OF A SMOKER AT THE PHONE. HE LOOKS AT HIS PACK THEN DIALS 131 848.

THE CAMERA GOES INTO THE PHONE AND TRAVELS DOWN THE SPIRAL CORD (AS IT DOES DOWN THE TRACHEA IN OUR PUSH ADS).

THE PHONE IS ANSWERED IN THE BUSY QUITLINE COUNSELLING ROOM.

MATERIAL ON THEIR DESKS AND GRABS OF THEIR CONVERSATIONS WITH SMOKER INDICATE A RANGE OF INFORMATION AND ADVICE AVAILABLE.

SPIRAL BACK UP PHONE LINE TO FIND OUR MAN STILL TALKING.

SUPER: QUIT 131 848. THE NATIONAL TOBACCO CAMPAIGN. A FEDERAL, STATE AND TERRITORY GOVERNMENT HEALTH INITIATIVE.

www.quitnow.info.au

Audio

VO: Every day thousands of Australians quit smoking. Some go it alone. Others get help.

MV: "Hello, yeah, look I want to quit smoking”.

Quitline Counsellor 1: “Sure, well you’ve taken the first step, that’s good”.

Counsellor 2: “Have you tried gum and patches before?”

Counsellor 3: “Hello Quitline, how can I help you?”

Counsellor 4: “And I can send you a Quit Book if you’d like”.

Counsellor 5: “Planning ahead is really important”.

Counsellor 6: “So how are you going with your quitting?”

Counsellor 7: “But not everyone successfully quits first time”.

VO: Quitting is never easy, but you can do it.
Press Advertisements

Artery Full Page Colour Advertisement
Also Produced as an A3 Poster

Lung Full Page Colour Advertisement
Also Produced as an A3 Poster

Tumour Full Page Colour Press Advertisement
Also Produced as an A3 Poster

Stroke Full Page Colour Press Advertisement
Also Produced as an A3 Poster
Billboards and Promotional Items

Poster For Non-English Speaking Background Strategy

Z card Fold Out Information Sheet

24 Sheet Outdoor Advertising

Poster Displayed On Side Of Bus
Television and Radio Advertisements on CD ROM

The CD ROM attached to the back cover of this book is for use only in conjunction with this book.

RADIO ADVERTISEMENTS

The radio advertisements on this CD ROM can be played as an audio CD in a personal computer. Double click on the wav icons.

- Artery (01.wav)
- Lung (02.wav)
- Tumour (03.wav)
- See the damage (04.wav)
- Cravings (05.wav)
- Coffee break (06.wav)
- Money (07.wav)
- Recovery rate (08.wav)
- Call Quit first (09.wav)
- Family can help (10.wav)
- Family benefits (11.wav)

TELEVISION ADVERTISEMENTS

The television commercials on this CD ROM can be viewed on a personal computer by double clicking the mpg icons on the CD.

- Artery (1.mpg on PC, 1.mpeg on Macintosh)
- Lung (2.mpg on PC, 2.mpeg on Macintosh)
- Tumour (3.mpg on PC, 3.mpeg on Macintosh)
- Brain (4.mpg on PC, 4.mpeg on Macintosh)
- Call for help (5.mpg on PC, 5.mpeg on Macintosh)
- Call for help (15 sec.) (6.mpg on PC, 6.mpeg on Macintosh)