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As we enter the new millennium, tobacco use remains the number one preventable cause of death in this country. Persuading governments to adopt effective strategies to reduce population exposure to tobacco smoke is therefore a crucial goal for both the Australian Cancer Society and the National Heart Foundation of Australia.

# Introduction: background and purpose of document

*Professor Alan Coates, Chief Executive Officer, Australian Cancer Society*

*Professor Andrew Tonkin, Health, Medical and Scientific Director, National Heart Foundation of Australia*

This document outlines the research needed to support effective tobacco control in Australia and the process by which these research priorities were defined.

As we enter the new millennium, tobacco use remains the number one preventable cause of death in this country, accounting for more than a third of cancer and a quarter of heart disease mortality. Persuading governments to adopt effective strategies to reduce population exposure to tobacco smoke is therefore a crucial goal for both the Australian Cancer Society and the National Heart Foundation of Australia. Tobacco control research is crucial to both the identification and fine tuning of such strategies.

A recent National Health and Medical Research Council (NHMRC) review has distinguished a) **fundamental**, b) **strategic** and c) **development and evaluation** research (NHMRC 1998a). The review committee calls for a greater emphasis on priority-driven research, defined as **strategic**, and **development and evaluation research** that 'contributes directly, in the short to medium term, to population health and the effectiveness, efficiency and equity of the health system' (NHMRC 1998b p 9).

Late in 1998, shortly after publication of this important report, our organisations initiated a process to define a priority-driven tobacco control research agenda for Australia. The framework for this agenda is the Australian National Tobacco Strategy 1999 to 2002–03 endorsed by the Ministerial Council on Drugs in early 1999 (NEACT 1999).

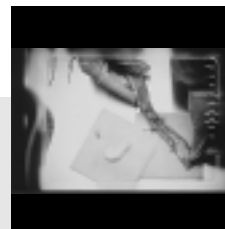
This document includes research ideas judged by the experts who took part in this process to be both practical and necessary in order to advance strategic tobacco control goals in this country. The Australian Cancer Society and the National Heart Foundation of Australia are pleased to have supported its development.

## R e f e r e n c e s

National Health and Medical Research Council. *The Virtuous Cycle. Working Together for Health and Medical Research*. a) Discussion Document and b) Summary, December 1998.

National Expert Advisory Committee on Tobacco. *National Tobacco Strategy 1999 to 2002–03*. Commonwealth Department of Health and Aged Care, 1999.

Rather than continuing to be dominated by investigator-driven research, tobacco policy research in Australia could be tied to a set of priorities agreed to by those working in the fields of tobacco research, policy and control. This would concentrate the research effort, addressing more policy-relevant questions than is currently the case.



## Rationale for a priority-driven research agenda

*Associate Professor Simon Chapman, Department of Public Health and Community Medicine, University of Sydney*

Each platform of a comprehensive tobacco control policy requires a research base from which it can be both justified and defended against critics. The history of tobacco control in Australia—as elsewhere—features many examples of strategic research that has fed into the policy development and advocacy. Table 1 gives examples of key tobacco control policy areas and specific research questions where research was instrumental and sometimes pivotal to policy reform or sustaining support for tobacco control policies in Australia over the 1980s and 1990s.

The research listed in Table 1 was funded from a miscellany of sources. Occasionally, this research has been commissioned because of an urgent and often political ‘need to know’. But more commonly it has been investigator initiated, and has slowly made its way through the normal peer-reviewed, competitive grant application process that typically lasts up to 36 months from conception to publication of results.

**Table 1** Tobacco policy areas, research questions and recent examples of research

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### **Policy relevance**

*What is the size of the problem?*

Numbers of people suffering tobacco-caused diseases in Australia each year (English et al 1995)

### **Economic costs**

*What is the cost of tobacco use in Australia?*

Social costs of tobacco in 1988 and 1992 (Collins and Lapsley 1996)

### **Political relevance**

*Are governments spending as much as they should?*

Expenditure by children on tobacco products compared with anti-smoking education (Girgis et al 1995)

### **Advertising controls**

*Might banning advertising contribute to the prevention of smoking uptake?*

Extent to which children notice, attend to and absorb cigarette messages (Chapman and Fitzgerald 1982)

Relationship between sports sponsorship and children’s brand preferences (Goldthorpe et al 1994)

Reach among children of remaining advertising (Chapman et al 1995)

### **Tobacco taxes**

*How affordable are cigarettes to children?*

Number of cigarettes a child can buy for the price of a Big Mac (Scollo 1996).

### **Pack warnings and yield labels**

*What should people be informed and warned about, and how should they be warned?*

Do people understand current yield labels? (Chapman et al 1986)

What are people's gaps in knowledge? What style of presentation maximises comprehension and impact? (CBRC 1992)

### **Restrictions on exposure to environmental tobacco smoke**

*Should employers, politicians and other decision makers support bans?*

Staff acceptance of bans (Borland et al 1989)

Consumption reduction due to bans (Borland et al 1990, 1991)

Public support for smoking bans in cars with children (Bauman et al 1995) day care centres (Jorm et al 1993) and in restaurants (Andrews 1994)

### **Sales to minors**

*Could supply-side strategies contribute to a reduction in uptake by children?*

Are small pack sizes targeted at children? (Wilson et al 1987)

Ease with which children buy cigarettes (Sanson-Fisher et al 1992)

Effectiveness of various strategies, such as warning letters, to reduce sales (Chapman et al 1994)

### **Public information**

*How can we maximise coverage of the smoking issue by the media?*

What tobacco issues are seen as newsworthy by the Australian media? (Chapman 1989)

### **School-based strategies**

*What guidance can we give to schools about optimal smoking control policies?*

Are particular policies associated with student smoking? (Clarke et al 1994)

### **Smoking cessation**

*Where should we be focusing our efforts?*

Characteristics of heavy smokers (Wilson et al 1992) and low rate smokers (Owen et al 1995)

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The formation of the NHMRC's Strategic Research and Development Committee underscores the need for research funding mechanisms that are more responsive to policy makers' needs for information, and for studies which are of high methodological quality and sophisticated in their analysis and discussion of the results obtained. The usual path taken by policy makers is to fund private consultants to provide information. Most experienced observers agree that the price of this is high in both monetary cost and the often-superficial quality of reports submitted.

It would be preferable that, rather than continuing to be dominated by investigator-driven research, tobacco policy research in Australia could be tied to a set of priorities agreed to by those working in the fields of tobacco research, policy and control. While this may not speed up the time from research conception to publication, it would concentrate the research effort, addressing more policy-relevant questions than is currently the case.

### In developing this document we aim:

- To define a research and training agenda based on identified gaps in knowledge and skills.
- To enhance the national research capacity, skills and institutional capability to respond in a focused and timely fashion to emerging health research needs.
- To develop a national capacity to identify, target, generate and link research-based knowledge that is applicable to programs, policies and interventions.
- To foster the ability to evaluate the application of research-based knowledge to programs, policies and interventions in medicine and public health.

With mortality from tobacco use the leading cause of death in Australia, it is fitting that the tobacco control research field is one of the first to initiate a priority-driven national research agenda.

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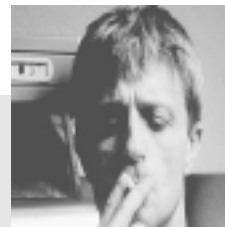
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A great deal is known about factors associated with uptake and cessation of smoking. These papers attempt to build on what is known, and focus on those areas requiring further investigation.



## Description of the consensus process

*Ms Michelle Scollo, Public Health Consultant*

A great deal is known about factors associated with uptake and cessation of smoking. The papers included in this document are intended for an informed audience. They build on what is known, and focus on those areas requiring further investigation.

The National Consensus Meeting on Strategic Tobacco Policy Research was held in Melbourne on 16 December 1998, immediately following the Australian Society of Behavioural Health and Medicine's conference on Behavioural Science in Health: Opportunities and Priorities. People with expertise in each of 10 areas of tobacco control were asked to present ideas for strategic research at a session attended by a wider group of policy and research experts, including a number of attendees of the Australian Society of Behavioural Health and Medicine's annual conference. A list of the participants is provided in Attachment 1. Presenters then developed brief papers, taking into account audience input.

The next step in the process was for a panel of experts (see Attachment 2) to consider each of the research ideas included in each paper. Panel members were asked to indicate factors relevant to the strategic importance and practicality of each research idea, and whether such research was already sufficiently supported in Australia or, if applicable, overseas. These factors, described or defined more fully in the next section, were taken into account by panel members when rating the usefulness of each research idea.

Where there were differences in ratings between panel members, 'outliers' were approached. Their reasons were then discussed and put to other panel members. In most cases, differences were resolved, and research ideas could be classified into one of three groups: 'very useful', 'useful' and 'of some use'. Ideas rated 'of little to no use' were excluded from these papers unless it was felt there was a danger that funding bodies might be inclined to support such projects. Among the 'very useful ideas' was a number of 'standout' research questions that people consistently rated extremely highly. The 'very useful' ideas are reproduced in the section titled 'Summary of research ideas judged most useful', with 'standout' ideas presented in **bold**.



1 To improve understanding of the determinants of smoking uptake and cessation. 2 To improve the efficacy of tobacco control interventions. 3 To improve dissemination/uptake of efficacious interventions. 4 To monitor progress in achieving tobacco control aims and objectives. 5 To provide data that would justify a particular program or legislative action.

# Overview of research priorities in tobacco control

## Rationale for selection

Research has a number of functions in tobacco control:

- 1 To improve understanding of the determinants of smoking uptake and cessation, for example, behavioural and pharmacological research.
- 2 To improve the efficacy of tobacco control interventions, for example, research on factors to improve the potency of educational materials, mass-media communication or health warnings.
- 3 To improve dissemination/uptake of efficacious interventions (taking into account the efficacy/reach trade-off), thereby improving program effectiveness.
- 4 To monitor progress in achieving tobacco control aims and objectives: population morbidity and mortality, key behavioural outcomes, and attitudinal, educational and policy indicators.
- 5 To provide data that would justify a particular program or legislative action, for example, research to persuade the public, media and politicians that cigarettes, public smoking behaviour and the tobacco industry need to be regulated.

Research type 1 might be described as **increasing basic knowledge** concerning tobacco use specifically and human behaviour more generally. Such research may also have educational or persuasive value, for instance in studies which decode or deconstruct the role of smoking in films or the intent of advertising images.

Research types 2, 3 and 4 are **part of the program and policy evaluation cycle** but may also be strategically useful in advocating program or political action.

Research type 5 is clearly **of strategic importance**. It is often required in very short timeframes, and it may have little impact unless used effectively for advocacy purposes.

The research that is most important in advancing what is strategically important in tobacco control would be:

- 1 research in areas where **the current level of understanding of determinants is insufficient to guide action**—it is hard to think of examples here, except perhaps in the area of tobacco product regulation and product innovation.
- 2 research on interventions where there would seem to be the potential to greatly **improve cost-effectiveness by improving efficacy of high reach interventions**, for example, increasing persuasiveness of television commercials.

- 3 research on pilot or existing interventions:
  - a which we suspect have **high cost-effectiveness** but which are currently not being implemented nationwide, for example, referral by health professionals to Quit-lines, telephone call-back programs
  - b which we suspect have **low cost-effectiveness** but which may be implemented wide-scale unless shown not to be cost effective—because they have public/political appeal for example, some school drug programs.
- 4 research that enables overall **progress (outcomes)** in tobacco control **to be monitored**, for instance (preferably on a State-by-State, annual basis):
  - a regular, consistent monitoring of estimated morbidity and mortality caused by smoking, and resultant social costs
  - b regular, consistent monitoring of smoking prevalence and tobacco consumption
  - c monitoring of key population smoking attitudes, beliefs, intentions and behaviour
  - d monitoring of policy and program indicators.
- 5 research to justify strategically important **program or legislative action**, particularly where there are good prospects of persuading governments and other stakeholders.

The research ideas outlined in the next section are judged by experts in Australia to be those most likely to be useful in advancing what are currently the most important goals in tobacco control:

- the adequate regulation of tobacco products including packaging
- more effective and greater spending on public information campaigns and prevention, intervention and cessation strategies for potential and current smokers
- further restrictions on smoking in public places in Australia
- measures to ensure that tobacco prices are high enough to be out of the reach of children and measures to prevent sales of cigarettes to children
- restrictions on remaining forms of promotion of tobacco products.

In selecting these ideas, reviewers took into account:

- the pertinence of the proposed research to key gaps in knowledge, or barriers to progress
- whether existing research from overseas or other disciplines might suffice
- the practicality of research in Australia.

When considering the practicality of research reviewers took into account:

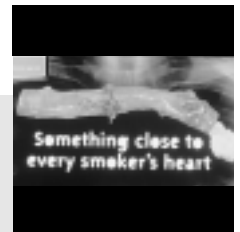
- ◆ quality of the data available
- ◆ whether there are ethical constraints on collection
- ◆ whether prior questions that provide a necessary starting point for each question have been answered
- ◆ whether the likely timeframes for seeing results are short enough to guide decision making
- ◆ the extent to which infrastructure is in place that would enable study for little additional cost.

## Recommendations for further development

The Heart Foundation and the Australian Cancer Society should:

- 1 Select and fund suitable institutions to develop research proposals for those 'standout' and other 'very useful' research questions that are not currently on the Government's policy agenda and that are unlikely to be funded by government programs or by health promotion foundations: in particular they should consider funding research related to smoke-free policies in the hospitality industry, licensing and tobacco product regulation. (These are areas that non-government agency representatives at a planning meeting in Melbourne in June 1999 felt that the Australian Cancer Society and the National Heart Foundation should make priorities for the next few years.)
- 2 Urge the Commonwealth Department of Health and Aged Services, the NHMRC, State health promotion foundations, State health departments, pharmaceutical companies and other bodies likely to fund tobacco control research, to give priority to research ideas that are rated in this document as 'very useful' or 'useful'.
- 3 Through the National Expert Advisory Committee on Tobacco (NEACT), urge the Commonwealth Department of Health and Aged Services and State health departments to consider the suggestions for indicators and monitoring in each area at the national and State levels.
- 4 Urge university public health and behavioural faculties to encourage students to undertake work in the areas indicated as priorities, and to incorporate content and skills training necessary for the sort of research being promoted.
- 5 Request a suitable agency, perhaps the VicHealth Tobacco Control Centre, to produce, as a companion to this document, a list of suitable people from Australia and overseas who might review proposals in each area of tobacco control research.
- 6 Toward the end of 2001, and perhaps two yearly after that, commission an update of the papers and limited review of priority research ideas contained in this document.

Which public health images are effective? What message/image would be effective among adolescents? What makes an image 'work' among the youth culture and how can this guide us in creating images for tobacco control targeting this group? Would images or messages that decode tobacco industry public relations or otherwise vilify the industry be effective with young Australians?



## Summary of research questions judged most useful

In this section, the questions presented in **bold** are those rated 'standout' ideas.

### Informing the community: public information campaigns

**Which public health images are effective? What message/image would be effective among adolescents? What makes an image 'work' among the youth culture and how can this guide us in creating images for tobacco control targeting this group? Would images or messages that decode tobacco industry public relations or otherwise vilify the industry be effective with young Australians?**

**What effect does media coverage of smoking issues (other than advertising) have on target groups?**

Can a minimum standard be set as a guide to a campaign being good/worthwhile? What would this minimum data set be?

What data are needed to convince health insurers (in particular the Health Insurance Commission) that they would save money by funding prevention campaigns?

What kind of data would convince public health specialists that youth-targeted prevention campaigns work? Is this different from the sort of data that would persuade politicians and others, and can these differences be reconciled?

What is the potential for popular culture role models (for example, soapie stars) to change the image of smoking among adolescents?

And, if methodological challenges can be overcome, what is the optimal mix of program components for maximum effect?

### Informing the community: school programs and programs targeting young people outside schools

What are the social, attitudinal, behavioural and pharmacological factors relevant in young people's transition from experimental to regular smoking?

**Could a pilot harm minimisation program designed to prevent transition to regular smoking succeed in lowering the percentage that try inhalation (the 'drawback')? Would such a program succeed in lowering cigarette consumption among children already experimenting with smoking? Would this result in lower prevalence in early adulthood?**

**What factors characterise young people at high risk of uptake who do not take up smoking?**

Do initiatives for young people designed to promote mental health also change attitudes and intentions with regard to tobacco use?

What is the relationship between smoking and the use of illicit drugs?

What kind of educational strategies might be effective in discouraging teenagers from providing cigarettes to their peers and in particular to younger children?

If research could be done for reasonable cost within reasonable timeframes:

- Do initiatives that prevent educational failure in ‘at-risk’ children result, long term, in lower levels of tobacco use?
- Do initiatives that succeed in promoting mental health in children who might otherwise be at risk—whether these be formal resilience-development programs, child psychiatric services or simply the provision of opportunities to excel in non-academic areas—result, long term, in lower levels of tobacco use?
- Do initiatives that succeed in preventing family breakdown result, long term, in lower levels of tobacco use?

## Promoting cessation of tobacco use

What is the effect of subsidies on use of cessation aids by economically-disadvantaged groups?

How can we make the most of pharmacotherapies, from a public health perspective (the effects of availability of ‘day packs’ on use and efficacy, and encouraging use of complementary strategies to maximise success)?

Should we allow nicotine replacement therapies to be sold in the medicines sections of supermarkets, or, even by shops that currently sell cigarettes?

What factors characterise non-smoking individuals from groups with high smoking prevalence, for example, lower blue collar workers and the long-term unemployed, young single mothers, Australian Aborigines and Torres Strait Islanders, men born in Asia and men and women born in central and eastern Europe?

What strategies might be effective in assisting Aboriginal and Torres Strait Islander smokers to quit?

## Reducing availability of tobacco products: taxation and price

What is the impact of the per stick excise and GST reforms on:

- the cost and market shares of various pack sizes and popular brands
- overall and per capita amounts of tobacco products excised and number of cigarettes sold pre and post reform, immediately and in the longer term?

What is the impact of excise reform on smoking by low compared with high-income groups (looking at factors such as quitting, amount smoked, amount spent, brand choice, overall tar, CO and nicotine exposure changes)?

Problems with data reliability have, to date, limited the practicality of research on price sensitivity. Once appropriate monitoring systems are in place, it might be more feasible to undertake research on the following:

- what is the price sensitivity in Australia, particularly among children?
- what is the price sensitivity among various income groups in Australia?
- is there evidence of price (tax) driven shifts to low cost brands, high nicotine yield (overall impact on tar and CO intake)?

## Reducing availability of tobacco products: youth access

Is perceived and/or actual ease of access to tobacco by children related to children's smoking (uptake, prevalence, and consumption)?

To what extent would the public support the cancellation of a licence to sell tobacco for offending retailers?

To what extent would the public and smokers support a complete ban on cigarette vending machines?

To what extent would the public and smokers support a policy that would require tobacco companies to be fined, taxed or refund the money they make from children's smoking?

And, if methodological problems can be overcome:

- To what extent do controlled purchase attempts underestimate actual ease of purchase?
- What schedule of enforcement actions will optimise retailer compliance with sales to minors laws?
- Is the number (or density) and type (for example, tobacconists, corner stores) of retail outlets per head of population related to children's smoking?
- Does proximity of outlets to schools or school/home transport routes matter?
- What is the threshold of retailer compliance with laws banning sales to minors that might result in changes in children's smoking?
- What level of licence fee and form of administration would optimise retailer compliance?
- What type of penalty is most effective in improving retailer compliance (on the spot vs court penalty vs licence cancellation)?
- How substantial are the incentives from the tobacco industry for retailers to promote access to (or sales of) cigarettes?
- How effective are industry-sponsored measures in preventing the sale of tobacco to children?

## Reducing tobacco promotion

What tactics is the industry using to circumvent or 'push the envelope' of point-of-sale advertising regulations? What is the extent of overt breaches of these regulations?

What has been the impact of the Tasmanian legislation banning point-of-sale advertising? Have shops closed? Has there been any impact on total sales volume? On particular brands?

With pack displays being all that is left in Tasmania, is there any evidence of strategic placement next to merchandise that appeals to children (for example, confectionery)?

How are cigarettes being used as cultural signifiers in depictions of smoking in films?

## Regulating tobacco products

How dangerous are Australian cigarettes? For instance, what substances appear to pose the greatest risks to health? What levels of those irritants, toxins and carcinogens that currently seem most significant are found in commonly-used cigarettes in Australia? In particular, what are the levels of BaP, which is a squamous carcinogen in animals and a fair surrogate for other poly-aromatic hydrocarbons, and NNK, which is adenocarcinogenic to the lung and is a fair surrogate for nitrate levels and some other nitrosamines such as NNN?

Do these vary significantly from levels observed in cigarettes produced in other countries?

Do Australian cigarettes vary over time in terms of levels of these carcinogens, irritants and toxins?

How informed are the choices people make about smoking: for instance, what percentage of people have an accurate understanding of the meaning and significance of current CO, nicotine and 'tar' readings?

How can the various substances in tobacco smoke best be measured in order to simulate or approximate actual delivery levels to smokers under real-life smoking conditions?

What percentage of smokers are currently unaware or have incomplete understanding of each of the various health risks posed by smoking?

What percentage of smokers understand the risks associated with smoking, in particular, those in relation to:

- stroke
- peripheral vascular disease
- macular disease
- oral cancers
- impotence
- and possibly cervical cancer and breast cancer?

Could the presentation of health warnings be improved to increase effectiveness? For instance, would illustrations improve recall and comprehension of warnings? What typeface, background, type colour and kind of border maximise readability, both up close and from point of purchase? Would sentence case be preferable to upper case?

How frequently should new warnings be introduced and how should existing warnings be rotated to maximise impact? What public relations strategies would enhance attention to warnings?

Would generic packaging increase the impact of the warnings and make cigarettes significantly less attractive to young people? Are there any sub-groups for whom plain packaging may increase product appeal?

Or reframing the above in economic terms, to quantify the lack of 'consumer sovereignty':

- What percentage of people do not fully understand:
  - the constituents of tobacco smoke and their immediate effect on the body
  - the various health risks associated with long-term use of tobacco products?
- What percentage of people might avoid smoking if they were fully aware of the nature of the product and the risk of long-term exposure to tobacco smoke?
- What percentage would avoid or stop smoking if they could overcome the addictive effects of nicotine?

How much public support is there for improved product regulation? For instance, what percentage of people would be in favour of more comprehensive disclosure of additives, smoke constituents and addictive capacity, and more comprehensive and explicit health warnings? What percentage would be in favour of mandatory, progressive reduction in carcinogen levels?

What percentage of people would be less likely to vote for a candidate who failed to support tobacco product regulation?

What factors affect the addictive potential of smoking? For example:

- What substances in cigarette smoke and what smoking behaviours maximise blood nicotine levels? What additives and what aspects of cigarette design are responsible for these substances and behaviours?

- What do industry documents released as part of litigation settlements say about nicotine manipulation and about product modification?
- How do smokers of cigarettes of various nicotine levels actually hold their cigarette? Do they occlude the ventilation holes? What percentages smoke harder at lower nicotine levels? Do these percentages change over time? Can people train themselves not to smoke harder?
- How important is nicotine to overall smoking 'satisfaction'? Provided comparable levels of nicotine were delivered, for what reduction in risk would smokers be prepared to forgo overall smoking 'satisfaction'? Would this be affected by relative prices of standard and less hazardous products?
- Are there modes and/or levels of consumption of nicotine where it is satisfying but not addictive? How do patterns of dose (amount and number) contribute to addiction?
- Do alternative nicotine delivery systems (ANDS) offer the potential to reduce harm from smoking? For example:
  - Will smokers use ANDS when 'superior' cigarettes are still available? How much less expensive do they need to be? How much do you need to reduce the 'superiority' of current cigarettes?
  - What patents have been lodged in Australia and elsewhere for various ANDS?
  - Might ANDS be attractive to children and other current non-users?

Re-framing the above questions in economic terms:

- How much does harmfulness of the product need to be reduced to compensate for any reduction in the percentage of people refraining from smoking?
- What proportion of mortality and morbidity might be avoided if the product were modified to the least harmful level technologically possible?
- What are the associated direct and indirect costs? What would be the costs of product regulation, to government, to the industry and to consumers?

Which existing or new legislation should be amended or introduced to include the desired controls, warnings and labeling? What provisions should be included in such legislation to ensure effectiveness?

What would be the current regulatory barriers to the sale of ANDS in Australia, and how might these best be overcome?

What can we learn from current and proposed Australian and overseas regulatory regimes for tobacco and for pharmaceutical products, illicit drugs and poisons? What principles of institutional design should be applied?

## Reducing exposure to environmental tobacco smoke

**What are the full economic costs and benefits of smoke-free policies in different venues, especially in restaurants and hotels/licensed bars? In particular, what are the full costs and benefits of strategies (ventilation) suggested by the tobacco industry, compared with those suggested by health groups (statewide smoking restrictions in all indoor areas)?**

What are the preferences of and perceived risks to employees of hospitality venues with regard to smoke-free policies?

What are the levels of claims in relation to workplace-related respiratory and other illnesses in venues that still allow smoking compared with those that do not?

How do smoker parents appraise the risks of exposure to environmental tobacco smoke for their own children, in relation to their own smoking habits and in their own homes and cars?

What kind of programs would be most effective in encouraging parents to adopt smoke-free policies in private homes and cars?

## Economic issues

What is the role of the tobacco industry in the Australian economy (reference to export earnings, import costs, crop diversification, employment, value added, taxation contributions, etc)? What would smokers spend their money on if they did not smoke? How much of tobacco industry profit stays in Australia and how much goes to offshore shareholders?

What opportunities might be provided by the General Practice Reform Agenda—divisions, practice accreditation, improving the relevance and quality of continuing medical education, recruitment of indigenous general practitioners, rural incentives and support schemes, and computerisation—for encouraging general practitioners' activity on tobacco control?

What funding incentives might be used to encourage State government, health care networks and health professional educational and advocacy activities to discourage tobacco use? For example:

- contracts between Commonwealth and States (public health partnerships agreements, Medicare)
- performance indicators in contracts between State health department and health care networks and in job contracts with senior managers and physicians
- Medicare rebates to GPs, physicians and specialists for preventive activity.

What is the future of the corner shop in Australia, and what role do tobacco sales play in the viability of such operations? How might such operations remain competitive in an environment of greatly reduced tobacco use?

Are treatment costs higher for patients who smoke?

Can we quantify the net economic costs and benefits to low-income groups of tobacco control policy?

What might be the costs and benefits of cessation versus harm-reduction strategies for consumers, government and business?

What is the cost-effectiveness of each of the major activities undertaken by Australian Quit organisations? What are the relative costs of providing services on a national compared with State basis?

What have been the costs of tobacco control since 1983 compared with the likely future reductions in costs (and benefits)?

What percentage of deaths and quality adjusted life year gains are attributable to tobacco control policies?

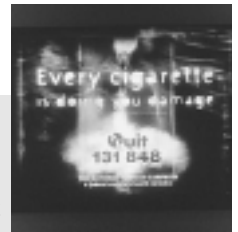
## Monitoring issues

How do we quantify activity and expenditure levels on tobacco control programs?

How do we measure/monitor the cultural environment relevant to smoking?

And, if the above can be done, what are the relationships between input variables (tobacco control interventions), outcomes (for example, prevalence) and confounding factors (for example, price and cultural environment)?

Future research on public information campaigns needs to adopt methods appropriate to the intervention. Randomised control trials are not appropriate for many mass media campaigns as true randomisation of units of analysis is almost impossible and full exploitation of mass media cannot accommodate segmentation into control and test areas.



# Research priorities in key areas of tobacco control

## Informing the community: public information campaigns

*Dr David Hill, Chairman, National Expert Advisory Committee on Tobacco and Director, Centre for Behavioural Research in Cancer*

### Background

It is essential that campaigns be evaluated to determine what works, when, and for whom. Many evaluations have shown campaigns to be effective in changing attitudes, awareness and knowledge (Flay 1987).

Valuable research on public information campaigns has been conducted beyond our shores, predominantly in the North American states of California, Minnesota and more recently Massachusetts and Florida (for example, Pierce et al 1998).

Australia has conducted a gamut of campaigns research. Between 1988 and 1996 over 100 research projects were conducted (Boulter 1996) with Western Australia as the forerunner, followed by Victoria.

Australia moved from a segregated State/Territory approach to a national campaign effort in 1996 through the formation of the Ministerial Tobacco Advisory Committee and the subsequent launch of the National Tobacco Campaign. Comprehensive research has been undertaken to evaluate the effectiveness of this campaign, including analysis of input, impact, and outcome measures and the smoker's environment (Hassard 1999).

Central to campaign effectiveness is use of mass media (Flay 1987). Studies have shown that mass media campaigns can produce a long-term sustained effect on smoking trends (Pierce et al 1990). Mass media advertising can be expensive and research that demonstrates that expenditure levels for campaigns and prevalence co-vary underlines the necessity to spend sufficient dollars on such campaigns (Hill et al 1998).

Future research on public information campaigns needs to adopt methods appropriate to the intervention. Randomised control trials are not appropriate for many mass media campaigns as true randomisation of units of analysis is almost impossible and full exploitation of mass media cannot accommodate segmentation into control and test areas. For such campaigns other research designs, such as time series analysis and alternate surveillance systems are necessary to monitor the intervention.

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## Policy/program relevance

Campaigns are strategically important because they help to build public and political support for tobacco control goals. They can also influence behaviour directly.

Research that provides insights that improve the efficacy of campaigns has potential to greatly improve the cost-effectiveness of Australia's public health effort across a range of health issues.

## Indicators/monitoring

It would be useful to define more precisely the optimal surveillance systems that are necessary to effectively monitor campaign interventions.

## Research questions

In this section, the questions presented in **bold** are rated 'standout' ideas.

### Very useful

**Which public health images are effective? What message/image would be effective among adolescents? What makes an image 'work' among the youth culture and how can this guide in creating images for tobacco control targeting this group? Would images or messages that decode tobacco industry public relations or otherwise vilify the industry be effective with young Australians?**

**What effect does media coverage on smoking issues (other than advertising) have on target groups?**

What data are needed to convince health insurers (in particular the Health Insurance Commission) that they would save money by funding prevention campaigns? (The Victorian Transport Accident Commission has demonstrated this for motor vehicle accidents.)

What kind of data would convince public health specialists that youth targeted prevention campaigns work? Is this different from the sort of data that would persuade politicians and others, and can these differences be reconciled?

Can a minimum standard be set as a guide to a campaign being good/worthwhile? What would this minimum data set be?

What is the potential for popular culture role models (for example, soapie stars) to change the image of smoking among adolescents?

And if methodological problems could be overcome, what is the optimal mix of program components for maximum effect?

And, much less likely: is it worth looking at archival data to try and relate smoking prevalence to campaigns on a State-by-State basis? Could this be extended to regulation and other influences on smoking?

### Useful

What is the place of randomised controlled trials designs, what are the alternative research designs and what data are needed for alternative designs?

What mix of media is necessary to be effective with target groups, especially those groups that media campaigns have failed to target?

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# Informing the community: school programs and programs targeting young people outside schools

*Based on a presentation by Dr Warren Stanton, Centre for Health Promotion and Cancer Prevention Research*

## Background

Until the early 1990s, there appears to have been a decline in smoking among younger secondary school boys in countries such as the US, UK and Australia, in line with the fall in overall adult prevalence. However, since then, most countries have experienced either static or rising teenage prevalence, especially among girls (Reid et al 1995).

The desire to bond with peers is probably the most important reason why young people take up smoking (RCP 1992)\*.

Children of smokers are twice as likely to take up smoking (Charlton 1984), and children who perceive that their parents disapprove of their smoking are about seven times less likely to be smokers than those who think they approve (Charlton 1996). The influence of parents is strongest in younger children, with a recent evaluation of a family-linked program for 9 and 10 year olds in the UK showing a lower onset rate in the targeted children and a decrease in smoking prevalence among their parents (Charlton 1994).

Smoking uptake is also strongly associated with poor academic performance and adverse life events (Zubrick and Silburn 1997), and there is growing interest in the role of nicotine in improving affect and regulating attentiveness (Dersewitz et al 1999). Smoking and use of other drugs has also been linked with depressive symptoms in children (Patton et al 1996). There has been little work done, however, on determining the extent to which such risk factors for smoking may be modifiable, that is, whether intervening will result in reduced smoking uptake.

There have been many attempts over the past 25 years to discourage children from smoking and numerous studies evaluating such efforts. From that research it has been concluded that information delivered in the form of lectures and demonstrations has little or no effect on young people's behaviour (Bruvold 1993). Programs that have sought to build refusal skills and self-efficacy (Bandura 1977), for example, those by Evans et al (1978) (Telch et al 1982) were more effective than informational approaches in delaying smoking onset (Bruvold 1993).

However, school health education programs have generally proved ineffective in practice in preventing uptake altogether (Reid 1999).

The promising results of the pilot studies have proved impossible to replicate on a large scale, no doubt because programs decline in effectiveness when taught in schools remote from the original developers: often teachers lack knowledge of theories and methods and do not feel comfortable or disagree with the interactive approaches advocated (Reid et al 1995); few schools are willing to provide sufficient time in the curriculum for the sophisticated methods required for optimum effect (Nutbeam et al 1993). (Research in the US suggests that at

\* A comprehensive review of 27 prospective studies of the onset of cigarette smoking conducted over the 1980s was published in 1992 (Conrad et al 1992). Multivariate support was found for the following predictors: 'a) socioeconomic status ... b) social bonding variables, particularly peer and school bonding ... c) social learning variables especially peer smoking and approval, prevalence estimates and offers/availability ... d) refusal skills self efficacy ... e) knowledge, attitudes and intentions... and f) broad indications of self esteem' p 1711.

least 10 sessions are needed, either as a single block in the main year of onset, or as a block of five lessons in each of the first two years (Glynn 1989).

If a young person actually wants to smoke, he or she will simply not put taught skills into action. Charlton (1999) has concluded that the ineffectiveness of school programs, even under the best circumstances, would appear to stem from:

- very strong broader cultural and more immediate social influences
- less academically-able students being more likely to smoke and less likely to pick up the information and skills promoted
- smokers and potential smokers being more likely to be absent from school (Charlton 1989, While et al 1997)
- many smokers rejecting school values (Minagawa et al 1993)
- the differing attitudes and needs of specific sub-groups of children not being met in a general classroom context
- warnings of the dangers of smoking and addiction and perhaps also sales restrictions making smoking seem even more attractive to some.

Many commentators now believe that comprehensive smoking control programs aimed at all age groups are more likely to reduce teenage smoking than programs aimed at youth alone (for example, Reid 1999, Hill 1999).

Comprehensive, multi-faceted interventions involving price increases, mass campaigns, provision of cessation advice and restrictions on smoking in public, have been effective in reducing adult prevalence in many countries. Some, but not all, have also been associated with declines in youth smoking (for example, Australia in the 1980s). It also seems probable that the campaigns in California and Massachusetts aimed at all age groups have had favourable effects on youth (Wakefield and Chaloupka 1999).

Other US states (for example, Florida) have focused their programs chiefly at youth, but it is too early to be certain about the impact. Controlled trials of media advertisements aimed solely at youth had favourable results in small-scale projects in Norway (Hafstad 1997) and the US, but larger-scale programs in Minnesota and England had little effect (Reid 1999). South Australian teenagers reported that the recent National Tobacco Campaign was more likely to make them want to stop smoking than a youth-oriented campaign focusing on the short term effects of smoking (Wakefield et al 1998). Since parental smoking behaviour and attitudes are known to influence teenagers, campaigns aimed at adults may have an indirect effect even on teenagers who never see them. Hill (1999) and Reid (1999) have concluded that adult campaigns offer better value for money than those aimed solely at youth, since they are likely to influence young people as well as adults.

Cessation programs for teenagers are expensive to operate, and it is difficult to recruit teenagers in large numbers. They are also less likely to be as effective as adult programs in the long run. This is due to the relatively unstable nature of teenage behaviour, with frequent changes in lifestyle as they move from school to employment or higher education. This makes relapse more likely over the longer term. Donald Reid and many other commentators have concluded that cessation programs for youth are unlikely to make a major contribution to the reduction of teenage smoking (1999). As with adults, however, brief advice from a family doctor is likely to be more cost effective, and reach more teenagers in the long run (Reid et al 1995).

Removal of additives intended to make cigarettes taste better to youth, and efforts to reduce smoking in the media, are both likely to be of value.

## Policy/program relevance

School health education programs are unlikely to contribute significantly to reductions in teenage smoking prevalence in Australia. However, this is unlikely to prevent them being promoted, not least by tobacco companies (PM 1997, 1998)! Covering the tobacco issue in schools is an important way of educating future voters about the health risks of smoking, and programs for children under the age of 12 can also stimulate parental quitting. We need to ensure that we provide high-quality information for the people that develop materials in all year levels, across all areas of the curriculum.

Schools can also contribute to tobacco control by concentrating on comprehensive approaches, such as Health Promoting School programs, which involve a range of other strategies likely to have some impact. These include complete bans on smoking in schools to protect health (Charlton 1994), and initiatives to develop social and mental health of students (Botvin 1995). Furthermore, since smoking is linked with poor educational performance and alienation from school, schools may have more effect by attending to the educational needs of their most alienated students rather than promoting intensive programs focusing solely on smoking. Perhaps tobacco control experts should be asking not ‘what can schools do for us’, but rather ‘what can we do to support the educational mission of schools?’

Warren Stanton has suggested that, as social norms have changed dramatically since the 1970s, it is time for a radical rethink of our approach to smoking and young people (Stanton 1998).

First, schools are merely one setting for reaching young people, and we should be extending our approaches to other educational institutions and to settings outside of school. Such initiatives might capitalise on the interest of many young people in lifestyle issues and ‘body-mind’ approaches to health. For younger children, restrictions on sales to minors might be helpful (see the section titled ‘Reducing availability of tobacco products: youth access’) but we also need to be tackling the sensitive issue of people other than retailers providing cigarettes to children. Ideally cigarettes would be sold only under controlled conditions to existing smokers. We need to be careful in our public relations however, to focus on the dangers of the product, not on the ‘evils of young people smoking’.

Second, the reality is that most young people nowadays do experiment with smoking. Many are dependent on nicotine, and many do want to quit. Schools are now for instance having to grapple with the issue of nicotine replacement medicine use on school premises. Banning additives that make smoking more palatable to children might be helpful—refer to ‘Regulating tobacco products’ section. There might be other harm minimisation strategies applicable to young people. Given the abject failure of prevention programs, we need to be looking less at experimentation and more at the process of transition to regular smoking, from ‘the drawback’, to possible attempts at cessation. Cessation programs at the school level are unlikely to be feasible. Although results of such initiatives so far have been mixed, it still might prove possible to develop suitable out-of-school services that support those young people who do want to quit—for instance promotion on youth radio stations of quit-lines and carefully developed Internet forums.

Third, we tend to ‘fall’ for many stereotypes about young people. Who would have thought for instance, that parenting would be an issue of interest to many young people? And we often tend to forget that many young people are adamantly against smoking, and that ‘youth’ are not an homogenous group. To target all young people at risk might require a variety of approaches.

Stanton calls for a workshop on adolescent smoking to underpin a new coordinated national strategy in this area. Such a workshop might consider the following research questions and others as the first step in developing such a strategy.

## Indicators/monitoring

What percentage of schools in each State have used, to recommended levels, anti-smoking curriculum materials at each age level?

What percentage of schools in each State also touch on tobacco issues in the syllabus in areas other than health education?

For each subject area in each State, how many of the recommended texts include good information on smoking?

## Research questions

In this section, the questions presented in **bold** are rated ‘standout’ ideas.

### Very useful

What are the social, attitudinal, behavioural and pharmacological factors relevant in young people’s transition from experimental to regular smoking?

**Could a pilot harm minimisation program designed to prevent transition to regular smoking succeed in lowering the percentage that try inhalation (the ‘drawback’)? Would such a program succeed in lowering cigarette consumption among children already experimenting with smoking? Would this result in lower prevalence in early adulthood?**

What factors characterise young people at high risk of uptake who do not take up smoking?

**Do initiatives for young people designed to promote mental health also change attitudes and intentions with regard to tobacco use?**

What is the relationship between smoking and the use of illicit drugs?

What kind of educational strategies might be effective in discouraging teenagers from providing cigarettes to their peers and in particular to younger children?

### Very useful if research could be done for reasonable cost within reasonable timeframes

Children exposed to ‘adverse experiences’ are at risk of both educational failure and mental health problems and drug use including smoking. Do initiatives that prevent educational failure in ‘at risk’ children result, long-term, in lower levels of tobacco use?

Do initiatives that succeed in promoting mental health in children who might otherwise be ‘at risk’—whether these be formal resilience development programs, child psychiatric services or simply the provision of opportunities to excel in non-academic areas—result, long-term, in lower levels of tobacco use?

Do initiatives that succeed in preventing family breakdown result, long term, in lower levels of tobacco use?

See also questions about the development of addiction in the section titled ‘Regulating tobacco products’ and additional research ideas in ‘Reducing availability’ sections.

### Useful

Do/would over-the-counter nicotine products help more young people to quit; should dosages be different and what kind of accompanying advice and counselling is appropriate, and how can this best be provided? Would such strategies be particularly useful in young people who have had adverse childhood experiences?

Is it cost-effective to target young smokers with advertising for quit-lines and Internet forums?

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# Promoting cessation of tobacco use

*Dr Ron Borland, Deputy Director, Centre for Behavioural Research in Cancer*

## Background

If lives are to be saved from tobacco-related diseases in the next 20 years, then existing smokers must successfully quit smoking.

It is still the case that most smokers try to quit by themselves, even though assistance can greatly increase their chances of success. The Cochrane review contains up-to-date information on trials of smoking cessation strategies (Lancaster and Silagy 1998), and although this does not provide sufficient information to assess strategies that are not readily amenable to randomised controlled trials, it shows that a range of strategies are, or can be, effective. The US (AHCPR 1996) and UK (Thorax 1998) have recently published guidelines for cessation.

The *stages-of-change* approach to smoking cessation (Prochaska and DiClemente 1983) has recently been subject to criticism, not least regarding the effectiveness of it as a model to facilitate behaviour change (for example, Farkus et al 1996). There is a need to better understand the limitations and value of a stages-of-change approach.

## Policy/program relevance

Mass media campaigns stimulate quitting and the search for assistance. Call-back counselling is now an established strategy for helping smokers quit and stay quit in the medium term (Lichtenstein et al 1996, Zhu et al 1996), although evidence Borland et al (unpublished) have collected suggests continuing problems with long-term relapse. There are opportunities for health professionals to refer smokers to such services rather than try to provide all the help themselves. As the Internet becomes more widely available, it provides numerous opportunities for interactive advice and support programs. Several are already available, but vary in quality. A system developed in Japanese has been reported to show promise (Takahashi 1998): it made considerable use of a controlled chat/advice room. Computer-driven expert systems (tailoring) can help (Prochaska et al 1993, Strecher et al 1994), but more work is needed to develop and extend existing systems.

Pharmacological smoking cessation aids are now established, with nicotine replacement therapy, now available over-the-counter, and Zyban (proprietary) likely to file for approval in Australia soon. Nearly all the research effort is going into drug trials, typically those needed to get regulatory approval. This could distort decision-making in the environment of evidence-based medicine. Combining behavioural and pharmacological therapy increases quit rates (Silagy et al 1997).

The Sarah Hodgson case against WD & HO Wills, claiming her costs for undertaking smoking cessation therapy, opens the possibility of claims for costs of quitting being borne by the tobacco industry. While this particular case failed, it seems that it did so on a technicality and it remains plausible that most smokers will eventually be able to gain costs of quitting from small claims tribunals.

## Indicators/monitors

What percentage of people have recently tried to quit and intend to quit? What percentages would be interested in various sorts of cessation assistance? What are the attitudinal, economic and other barriers to use?

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What percentage of Australian adult and child smokers, ex-smokers and never smokers currently use/have ever used/intend to use each of the various nicotine products available on the Australian market?

What are the barriers to use, and what are the negative and positive experiences of those who have used them?

What percentage of people have been advised to quit by various health professionals they have consulted, ever and recently?

## Research questions

In this section, the questions presented in **bold** are rated 'standout' ideas.

### Very useful

**What is the effect of subsidies on use of cessation aids by economically disadvantaged groups?**

How can we make the most of pharmacotherapies, from a public health perspective (the effects of availability of 'day packs' on use and efficacy, and encouraging use of complementary strategies to maximise success)?

**Should we allow nicotine replacement therapy to be sold in the medicines sections of supermarkets, or, even by shops that currently sell cigarettes?**

**What factors characterise non-smoking individuals from groups with high smoking prevalence, for example, lower blue collar workers and the long-term unemployed, young single mothers, Australian Aborigines and Torres Strait Islanders, men born in Asia and men and women born in central and eastern Europe?**

**What strategies might be effective in assisting Aboriginal and Torres Strait Islander smokers to quit (high smoking rates, enormous disadvantage and cultural issues)?**

### Useful

What new telecommunication and/or Internet-based technologies could help smokers quit?

- computer tailoring
- Internet sites with advice
- chat rooms on the Internet
- expert controlled chat and feedback facilities on the Internet.

What strategies are effective in helping health professionals become more useful resources in smoking cessation: skilling and/or referral?

- referral to telephone-based services
- use of computer-based services in surgeries and in homes/workplaces.

How can relapse best be prevented short term and medium term? (This is an extremely important basic research question, work on which might be supported if an excellent Australian researcher wanted to pursue it. Otherwise Australia may need to rely on overseas data.)

Can TV and other mass media be used to convey practical cessation advice?

What strategies might be effective in assisting smokers of non-English speaking backgrounds to quit (language and cultural issues)?

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What strategies might be effective in assisting older smokers to quit (attitudinal issues)?

### Of some use

Which interventions and/or disseminated cessation programs are most cost-effective (largely known at least in broad terms)?

What is the utility of stages-of-change based approaches in relation to:

- cessation
- prevention? (This is an extremely important basic research question, work on which might be supported if an excellent Australian researcher wanted to pursue it. Otherwise Australia may need to rely on overseas data.)

What are the attitudes to quitting among staff and other carers in psychiatric and drug and alcohol services?

### Mixed opinions about usefulness

How can smoking cessation best be facilitated in those with smoking-related diseases?

- cardiovascular disease
- emphysema and related conditions
- peripheral vascular disease
- cancers. (Some reviewers felt this was important because of the potential impact on mortality of efficacious interventions. Others felt that notoriously poor pick-up of strategies by health professionals made it doubtful that such strategies could be cost-effective.)

What is the potential for adolescent cessation programs:

- school-based (known to be of extremely low cost-effectiveness)
- community-based (mass reach strategies not well evaluated)?

## Considerations for funding bodies

This is the area of tobacco control research in which the pharmaceutical industry has historically been most interested in investing.

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# Reducing availability of tobacco products: taxation and price

Ms Michelle Scollo, Public Health Consultant

## Background

Government agencies, economists, tobacco control activists and the tobacco industry alike agree that increasing the price of tobacco products reduces consumption.

In a recent review of studies that have used appropriate econometric models controlling for income, tobacco control policies and socio-economic and demographic factors, Chaloupka and Warner report price elasticities of between -0.17 to -0.56 (1999). This means that for each 10 per cent increase in the price of cigarettes, between two and six per cent fewer cigarettes will be smoked.

The US Office on Smoking and Health recently published the following estimates of adult price sensitivity.

Table 1 Adult price sensitivity estimate (US 1976–1993)

Age group	Prevalence (participation)	Consumption (no of cigarettes)	Total
18–24	-0.37	-0.21	-0.58
25–39	-0.25	-0.17	-0.42
40+	-0.06	-0.04	-0.10
<b>Total</b>	<b>-0.15</b>	<b>-0.10</b>	<b>-0.25</b>

Centers for Disease Control and Prevention. *Morbidity and Mortality Weekly Report*, 31 July 1998 vol 47, no 29.

Information is also available on relative price sensitivity within various income groups (Townsend 1994, Institute for Fiscal Studies 1988, CDC 1998).

Table 2 Adult price elasticity by measures of disadvantage (US 1976–1993)

	Prevalence	Consumption	Total
<b>Race/Ethnicity</b>			
White	-0.05	-0.09	- 0.14
Black	-0.36	+0.04	- 0.32
Hispanic	-1.31	-0.58	-1.89
<b>Family Income</b>			
> Median	-0.05	-0.12	- 0.17
< Median	-0.20	-0.09	-0.29
<b>Gender</b>			
Male	-0.18	-0.08	-0.26
Female	-0.09	-0.10	-0.19

Centers for Disease Control and Prevention. *Morbidity and Mortality Weekly Report*, 31 July 1998 vol 47, no 29.

Most researchers have found that children, less addicted and with less disposable income than adults, are more price sensitive than adults (Chaloupka and Warner 1999).

**Table 3 Children's price sensitivity (US 1990–1992)**

	Overall	Boys	Girls
<b>Participation</b>			
Price only model	-0.87	-1.51	-0.32
Full model	-0.49	-1.02	-0.06
<b>Intention to smoke</b>			
Price only model	-0.95	-0.92	-0.99
Full model	-1.07	-0.84	-1.26

Lewit E, Hyland A, Kerrebrock N and Cummings K. Price, public policy and smoking in young people. *Tobacco Control* 1997; 6(suppl 2): S17–S24.

It should be noted that studies examining price sensitivity in the US and elsewhere have been carried out over periods of overall decline in smoking prevalence. It is possible that consumers' sensitivity to changes in the price of tobacco products may be different in an environment of overall steady or increasing smoking rates.

It is interesting to note that children's pocket money appears to be related to consumption, both in Europe (Medoza 1992) and in Australia (White, personal communication).

While there were significant increases in tobacco taxes and cigarette prices, the average young Australian teenager's pocket money increased faster than cigarette prices in the 1990s (Chikritzhs et al 1997).

Recommended retail prices of cigarettes in Australia are more expensive and less affordable than cigarettes in many other countries (Scollo and Sweanor 1999).

**Table 4 Global cigarette prices, June 1998**

Most popular brands, selected countries, 3 Jun 98	Price of 20 cigs, 3 June 98	Most popular brands, selected countries, 3 Jun 98	Price of 20 cigs, 3 June 98
<b>COUNTRY</b>	<b>\$ US<sup>2</sup></b>	<b>COUNTRY</b>	<b>\$ US</b>
Sweden <sup>1a</sup>	5.73	Netherlands	2.30
United Kingdom <sup>1a</sup>	5.51	Italy	2.12
Denmark	4.44	US current (Highest) <sup>3</sup>	3.02
Ireland	4.35	US estimated post Settlement (Highest)	3.54
Finland	4.08	Greece	1.99
Canada (Highest)	4.04	Portugal	1.76
France	3.27	Canada (Lowest)	2.17
New Zealand	3.31	Spain	1.26
Belgium	2.89	US current (Average)	2.06
Australia <sup>1a</sup>	3.32	US estimated post Settlement (Average)	2.60
Germany	2.97	US current (Lowest)	1.67
Austria	2.57	US estimated post Settlement (Lowest)	2.20

**Notes:** 1) Prices and taxes are supplied by Treasury sources, as at 3 June 1998 for a package of 20 of the most popular brand family, or for 20 cigarettes where the most popular brand family is not sold in 20s.

1a) Since 3 June taxes and prices have decreased significantly in Sweden (by an estimated \$US1.29), have increased significantly in the UK (by \$US 75 cents) and have increased slightly in Australia and several US States.

2) Exchange rates are from Bank of Montreal, Noon Exchange Rates, 3 June 1998.

3) US taxes and prices include local taxes, and estimates of the effects of 1998 manufacturers' price increases. The impact of the settlement provisions are treated as a manufacturer's cost rather than a tax.

Scollo M, Victorian Smoking and Health Program, Australia and Sweanor D, Smoking and Health Action Foundation, Canada.

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However, note that actual average retail prices of cigarettes in Australia are considerably lower than retail prices recommended by retail trade associations (Scollo et al in press).

## Policy/program relevance

Health groups have recently been successful in persuading the Federal Government to reform taxes on tobacco products that have been based on the weight of the tobacco product combined, since the mid 1970s, with the dollar value of the product. The shift to per stick excise system of raising customs and excise duty on cigarettes occurred in November 1999.

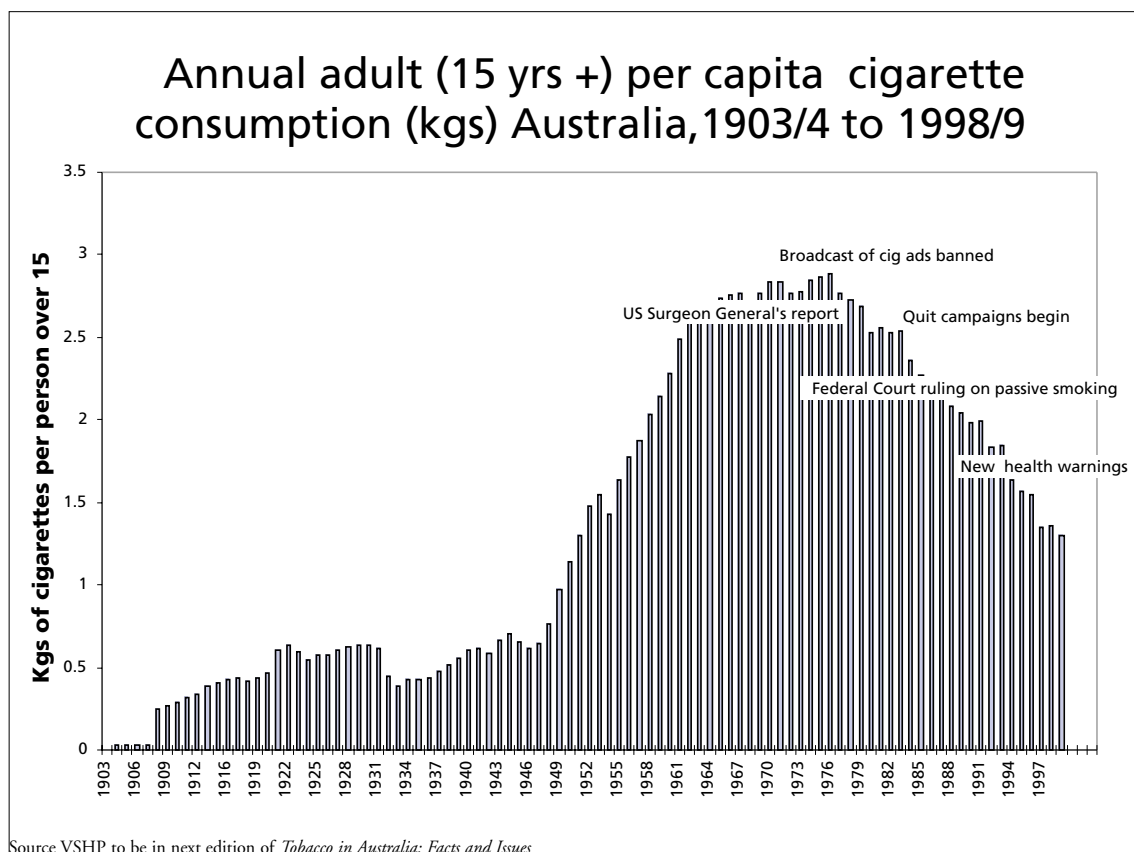
A GST (with no compensatory decrease in excise) is scheduled to be added from July 2000.

This means possibly greater incentives for tax evasion and few immediate prospects for further tax increases.

## Indicators/monitoring

The Federal Government should support regular monitoring of the number of cigarettes and the amount of tobacco consumed in Australia.

Figure 1 Estimated annual adult per capita cigarette consumption (kgs) Australia 1903 to 1998-99



Currently there are no reliable data on the number of cigarettes excised in Australia or the weight of Australian cigarettes. The Australian Bureau of Statistics (ABS) was unable to provide access to data about amount of roll-your-own excised in 1997–98 and 1998–99. There is patchy information on the market share of various brands, and only very recent data on the average retail price of cigarettes. Experts are doubtful as to whether the ABS's tobacco price sub-index adequately takes account of the dramatic shift to use of large, budget cigarette packs since the mid-1980s.

The priority would appear to be the establishment of reliable systems of monitoring. This would involve an analysis of the adequacy of current data sources, and the development of indicators that might be reported on, by law, by manufacturers and wholesalers.

## Research questions

In this section, the questions presented in **bold** are rated 'standout' ideas.

### Very useful

**What is the impact of the per stick excise and GST reforms on:**

- **the cost and market shares of various pack sizes and popular brands**
- **overall and per capita amounts of tobacco products excised and number of cigarettes sold pre and post reform, immediately and in the longer term?**

What is the impact of excise reform on smoking by low- compared with high-income groups (quitting, amount smoked, amount spent, brand choice, overall tar, CO and nicotine exposure changes)?

### Very useful if methodological problems can be overcome

Problems with data reliability have to date limited the practicality of research on price sensitivity.

Once monitoring systems are in place, it might be more feasible to undertake research on the following questions:

- what is the price sensitivity in Australia, particularly among children
- what is the price sensitivity among various income groups in Australia
- is there evidence of price (tax) driven shifts to low cost brands, high nicotine yield (overall impact on tar and CO intake)?

## Considerations for funding bodies

Prior to November 1999, there is no information available on the number of cigarettes sold in Australia. Sales data is a poor indicator of consumption because of changing market shares of budget brands and discount stock. This makes studying the impact of price increases extremely difficult. Studies attempting to assess the impact on tobacco consumption of pro and anti-tobacco advertising and workplace bans are subject to the same problems.

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# Reducing availability of tobacco products: youth access

*Dr Melanie Wakefield, Behavioural Scientist, Behavioural Epidemiology Unit, SA Health Commission*

*Dr Chris Rissel, Epidemiologist, Central Sydney Area Health Service*

## Background

### Youth access and uptake of smoking

Little is known about the effects of youth access policies on the smoking behaviour of children, with some commentators arguing that it is a misguided strategy (for example, Glanz 1996). Two early studies have documented reductions in student smoking (Jason et al 1991, Hinds 1992). However, two recent randomised controlled trials (Rigotti et al 1997, Staff et al 1998) found no or mixed effects. These studies suggest that shopkeepers' rate of selling to minors may need to be extremely low in order to translate into reduced smoking uptake. Effectiveness of local enforcement efforts are likely to be undermined when neighbouring areas do not enforce laws, since there are nearby alternative venues from which to purchase.

These studies also suggest that the effects may only be apparent with younger students. Staff et al (1998) demonstrated a reduction in smoking prevalence among Year 7 students, but no changes in older students and even an increase among Year 10 students. The Rigotti study (1997) focused on older students in Years 9 to 12. Other possible benefits from reduced access have not been routinely reported, such as reduced consumption, or delay or halting of progression from experimental smoking to regular smoking (Tang and Rissel 1997).

### Prevalence and measurement of youth access

Easy access to tobacco is thought to undermine other messages to children that smoking is inadvisable.

There is some evidence that as over-the-counter purchase becomes more difficult, other sources (for example, vending machines, adults, older children, single cigarette sales) become more popular as a source of cigarettes (Wolfson et al 1997).

Despite their frequent use, controlled purchase attempts will overestimate true ease of access, since in uncontrolled situations children can use multiple attempts, lie about their age or try different outlets to obtain cigarettes.

Measures of 'true access' are required, since this is a key intervening variable between policy enforcement efforts and changes in children's smoking.

### Relationship between interventions and youth access

Interventions aimed at preventing the sale of cigarettes to children include retailer education (Schoenmakers et al 1997, Schofield et al 1995), community education (Junck et al 1997, McMaugh et al 1998 and Foster et al 1998), and enforcement (including graduated warnings and prosecution) (McKenzie and Connor 1995, NSW Health Department 1996).

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## Public opinion

The public strongly supports the idea that children should not be allowed to buy tobacco (Bauman 1996), but there is little data on level of support for stringent penalties, active enforcement and for alternative ways of raising revenue to fund enforcement efforts (Girgis et al 1995, Wakefield et al 1999).

## Tobacco industry position

The tobacco industry makes public statements in support of reducing cigarette sales to minors, and is in favour of an education-only approach to minors, possibly aware of the ineffectiveness of education-only strategies (DiFranza and Brown 1992, DiFranza et al 1996). Several Australian tobacco-industry sponsored approaches to discouraging children from buying have been launched, presumably for public relations value. While the net income from sales to minors per retailer might be low (Rissel et al 1997), the sponsorship from the tobacco industry for stocking promotional items or equipment may be substantial (Feighery et al 1999).

## Policy/program relevance

There is considerable investment in measuring and trying to reduce children's access to tobacco, despite uncertainty as to the benefits for reducing children's smoking.

Policy-makers and the public tend to overestimate the likelihood of this strategy influencing children's smoking, with the risk that other, potentially more productive strategies are not funded.

There is irregular data on measures of youth access across States and little standardisation of measurement methods, despite most States having conducted cigarette purchase attempt studies (for example, Sanson-Fisher et al 1992, Andrews et al 1994, Chapman et al 1994, Carruther and McDonald 1995, Mawkes et al 1997).

Maintenance of a licensing scheme for tobacco retailers, wholesalers and perhaps manufacturers and growers, could facilitate enforcement and improve compliance, and various schemes are currently under discussion throughout the States. Given that retailer education alone is insufficient to improve compliance in the long term, research is needed to provide information as to how additional education and enforcement funding might best be spent. Understanding the appropriate mix of minimum or optimal strategies allows assessment of staffing requirements for optimum enforcement.

The goal should be to get tobacco companies to stop supplying shops that sell to children.

Exposing the double standards of the position advocated by the tobacco industry will undermine its credibility. It may be possible to force a rift between the tobacco companies and retailers.

## Indicators/monitoring

How accessible is tobacco to children, what is children's perception of ease of access in each State or urban/rural area of interest and how does this change over time?

How willing are parents and other community members to 'dob in' tobacco retailers observed or suspected of selling to children, thereby targeting them for compliance checking?

What measures do tobacco companies take to minimise the sale of their products to children?

## Research questions

In this section, the questions presented in **bold** are those rated 'standout' ideas.

## Very useful

Is perceived and/or actual ease of access to tobacco by children related to children's smoking (uptake, prevalence, consumption)?

To what extent would the public support the cancellation of a licence to sell tobacco for offending retailers? (This and the following question currently have high strategic value because several State governments are in the process of considering options or drafting legislation on licensing and vending machine placement.)

To what extent would the public and smokers support a complete ban on cigarette vending machines?

To what extent would the public and smokers support a policy that would require tobacco companies to be fined, taxed or refund the money they make from children's smoking?

## Very useful if methodological problems can be overcome

To what extent do controlled purchase attempts underestimate actual ease of purchase?

What schedule of enforcement actions will optimise retailer compliance with sales-to-minors laws?

Is the number (or density) and type (for example, tobacconists, corner stores) of retail outlets per head of population related to children's smoking?

Does proximity of outlets to schools or school/home transport routes matter?

What is the threshold of retailer compliance with the law that might result in changes in children's smoking?

What level of licence fee and form of administration would optimise retailer compliance?

What type of penalty is most effective in improving retailer compliance (on the spot vs court penalty vs licence cancellation)?

How substantial are the incentives by the tobacco industry for retailers to promote access to (or sales of) cigarettes?

How effective are industry-sponsored measures in preventing the sale of tobacco to children?

## Of some use—answers largely known

What is the relationship between perceived difficulty of purchase (or controlled methods of purchase) over the counter and purchase from vending machines or acquisition of cigarettes from other sources?

How do children appraise efforts to make cigarettes harder to access?

What is the likely impact on demand for cigarettes if supply/access to cigarettes becomes more restricted?

What level and type of community involvement/action promotes improved retailer compliance?

## Considerations for potential funding bodies

Ethics committees have often been concerned about the possibility of encouraging underage children to experiment with smoking, and moral and legal worries about entrapment of retailers. It is advisable to use children who are overage but appear young for their age, or underage children who participate in other anti-smoking education initiatives. Health departments generally use purchase attempts for research and monitoring purposes, but do not use the results of compliance checks in prosecutions.

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# Reducing tobacco promotion

*Associate Professor Simon Chapman, Department of Public Health and Community Medicine, University of Sydney*

## Point-of-sale promotion

### Background

Commencing in September 1976, when direct radio and television advertising for cigarettes was banned in Australia, tobacco advertising has been progressively prohibited. Point-of-sale advertising remains the only overt tobacco advertising still permitted in Victoria, Queensland, South Australia and the Northern Territory, with promotions limited to pack displays in Tasmania, NSW and the ACT.

While distribution of free samples in public places is illegal, free sampling, utilising ‘cigarette girls’, is undergoing a resurgence on private property (for example, dance parties, pubs and large functions). Tobacco companies are also able to obtain tobacco-selling licences for hundreds of ‘cigarette girls’ who are then able to ‘sell’ sample packs for a token coin.

The association of entertainment, drinking and fun with smoking, through the use of attractive ‘cigarette girls’, may be a key strategy in industry efforts at modelling cigarette ‘social transactions’, ice-breaking, etc.

### Policy/program relevance

There may be symbolic importance in ending *all* tobacco advertising. If advertising is allowed to remain at point-of-sale where it can be readily seen by children, the community may feel that governments are not serious about tobacco control—that they are trying to be ‘half pregnant’ (Chapman 1996). This may jeopardise community support for government efforts at tobacco control.

Point-of-sale advertising may be influencing the decision making about smoking of key population groups (youth, smokers of low socio-economic status).

There is considerable international interest in documenting tobacco advertising restriction ‘endgame’ promotional strategies, for the benefit of other nations which are also introducing restrictions (Fraser 1998).

Tobacco retailers complain that a point-of-sale ban would reduce their total sales of tobacco, whereas manufacturers have claimed that such advertising affects only brand preference. Information is needed to address this question.

With closure of most other advertising opportunities, value-added promotions (for example, 2 for 1, diaries, lighters) appear to be increasing in some jurisdictions. There is evidence from the US of a massive switch in advertising expenditure to such promotions (Davis 1987, US CDCP 1990, Feighery et al 1999). There will be a need to widen advertising restrictions to cover such promotional strategies if these are effectively replacing advertising in Australia.

### Indicators/monitoring

Ideally the government would have reporting requirements in place, as in the US, to monitor what the industry spends each year in each jurisdiction on remaining forms of tobacco promotion.

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## Research questions

In this section, the questions presented in **bold** are rated ‘standout’ ideas.

### *Very useful*

**What tactics is the industry using to circumvent or ‘push the envelope’ of point-of-sale advertising regulations?  
What is the extent of overt breaches of these regulations?**

What has been the impact of the Tasmanian legislation banning point-of-sale advertising? (dchs.tas.gov.au 1998)  
Have shops closed? Has there been any impact on total sales volume? On particular brands?

With pack displays being all that is left in Tasmania, is there any evidence of strategic placement next to merchandise that appeals to children (for example, confectionery?)

### *Useful*

Does the public perceive any ‘half-heartedness’ or ‘job half done’ aspects in allowing point-of-sale advertising to continue? Do such attitudes promote public cynicism (for example, ‘Smoking can’t be all that bad, because otherwise the government would ban *all* advertising.’)? (Chapman et al 1993)

Are there differences in the recall and recognition of point-of-sale advertising between youth and established adult smokers?

What is the range of value-added promotions being used? Do any of these strategies particularly appeal to children?

What is the awareness, perceived attractiveness and uptake of value-added promotions among key groups (non-smoking youth, smoking youth, low SES smokers)?

What are the legislative possibilities in restricting value-added promotions?

What is the extent of give-away promotions? How many smokers and nonsmokers have encountered these promotions? Are nonsmokers being approached? Is there any evidence of under-age targeting?

What is the legal situation re ‘private’ distribution and token payment?

## Considerations for funding bodies

As one of the countries most advanced in this area, Australia has a leadership role to play in assessing the efficiency of strategies to ban advertising and the overall effectiveness of such strategies.

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# Product placement

## Background

US studies have shown a recent increase in the appearance of smoking in films (Hazan et al 1994, Stockwell and Glantz 1994). Industry documents disclosed in the Minnesota trial show much evidence of product placement (pmdocs 1999).

## Policy/program relevance

If product placement is occurring in Australian film productions and magazines (Chapman et al 1995), it is illegal. (Little is able to be done locally about productions originating abroad.) There is considerable potential for stimulating debate within the film and magazine industry about thoughtless depiction of smoking. Local evidence is required to commence this debate.

## Indicators/monitoring

Is tobacco use increasing in Australian-made television and feature films, particularly those most popular with youth and low SES groups?

Are such depictions 'tobacco generic' or brand specific?

Are critical audiences able to recall such depictions?

## Research questions

### *Very useful*

How are cigarettes being used as cultural signifiers in depictions of smoking in films (Chapman and Davis 1997)?

### *Useful*

What is the attitude of Australian magazine editors and film directors to their role in depicting smoking? Is there any debate about the ethics of such depiction in these industries? Is there any evidence of product placement (that is, cash or kind transactions)? (Research in the Australian industry is probably only of limited usefulness given the predominance of Fox and other American-based production houses.)

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# Overseas' sponsorships via TV

## Background

With internationalisation of cigarette brands (for example, Winfield), and of much sport, national advertising bans are being eroded by telecasts from host nations with open-door policies on tobacco advertising (for example, grand prix, major golf, rugby, cricket).

## Policy/program relevance

Video technology now allows 'virtual' advertising to be transposed on screens (as demonstrated in a recent international rugby union controversy). If advertisements can be transposed into specific spots, the same technology may allow the obliteration of tobacco hoardings on sports fields, race-tracks, etc, when overseas broadcasts are beamed into Australia.

## Indicators/monitoring

How much international tobacco sponsorship is coming into Australia?

## Research questions

### *Useful*

Is 'blotting out' feasible when much sport coverage requires constantly-moving camera work? Can it be implemented by the receiving TV channels, or would it require editing techniques to be implemented at point of broadcast?

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## Regulating tobacco products

*Ms Michelle Scollo, Public Health Consultant*

*Dr Ron Borland, Deputy Director, Centre for Behavioural Research in Cancer*

### Background

The low-tar cigarette, at least as made in the US in the past two decades, is turning out to be an illusion. Changes made in the 50s and 60s—namely the widespread adoption of cigarette filters—did appear to produce a product which lowered lung cancer risk (see IARC Monograph no 38 and Stellman and Garfinkel 1989). However, the analysis of the American Cancer Society's Cancer Prevention Study no 2 (CPS-2), which was begun in 1982 and completed in 1988, did not show a decline in mortality risk, despite a major reduction in the measured tar content of cigarettes available over the lifetime of those who died in the study period. Further, long duration smokers (35–45 pack years) showed an increase in mortality compared with long duration smokers from earlier cohorts.

Many smokers are falsely reassured by the tar readings on cigarettes (Kozlowski et al 1996, 1998). However the concept of 'tar' is seriously misleading in that it makes no statement about the qualitative nature of the particulate matter produced by the burning of various tobacco products. Due largely to changes in agricultural practices, tobacco grown in the US in the 1980s had higher levels of nitrate than that produced in previous years. As a consequence, it is believed that cigarettes produced since that time have had higher yields of some Tobacco Specific Nitrosamines (TSNA), notably NNK (4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone) and NNN (N-nitrosornicotine) (Hoffman et al 1997, Presentation by RJ Reynolds at CORESTA meeting, September 1999). In the light of the failure of so-called low tar cigarettes to reduce mortality from smoking, Dr Nigel Gray has proposed the establishment of a new measurement system that focuses specifically on these chemicals (letter to the *Lancet* September 1999). Dr Gray has called on health departments worldwide to establish achievable and gradually reducing upper limits on the levels of these key carcinogens (Gray et al 1998).

In addition to concern about measurement systems for carcinogens and other toxic constituents, tobacco control advocates are also discussing various possible policy approaches for the regulation of nicotine. The debate can be summarised, in simple terms, as one about whether the nicotine should be taken out of cigarettes—to render them less addictive, or whether the 'cigarette' should be taken out of nicotine—to make 'nicotine addiction' less dangerous. That is, there have been proposals for:

- *nicotine weaning* (most notably Benowitz and Henningfield 1994 and more recently the American Medical Association [Henningfield et al 1998] versus alternative proposals for promotion of less hazardous products delivering nicotine, where cigarettes have been characterised as:
- *nicotine in a dirty syringe* (for example, Swenor 1996, and at meetings in London Nov 1996, Toronto March 1997, Nashville May 1997, Geneva Aug 1997 and Melbourne Nov 1997). Harm minimisation approaches to tobacco control have been contemplated in the light of the recent development of so-called Alternative Nicotine Delivery Systems.

ANDS might include:

- less harmful tobacco products, for instance cigarettes which deliver tobacco vapour as opposed to smoke
- new products that are significantly less harmful than cigarettes but which supply nicotine in a way that satisfies users (cigarette substitutes)

- short- or long-term use of nicotine replacement therapy as a partial or full substitute for cigarettes (Borland and Scollo 1999).

The applicability of harm minimisation concepts in tobacco control (as debated by Henningfield 1995, Laugesen 1997, McNeil 1998, Nordgren 1998) depends on the commercial feasibility of ANDS and, therefore, of a 'nicotine maintenance market' (Warner et al 1997). Also central to the debate is the question of the desirability of a common regulatory framework for all products containing nicotine (Borland 1997a and b). For a critical appraisal of these issues see Scollo (1998), a report produced following the Centre for Behavioural Research in Cancer's symposium on nicotine regulation in Melbourne in November 1997.

## Policy/program relevance

Current methods of testing cigarette smoke were developed by the US Federal Trade Commission and adopted by the International Standards Organisation. The Commission has acknowledged that the machines used in testing do not occlude ventilation holes in the same manner that smokers do, and it is attempting to develop methods that more accurately reflect delivery to smokers under real-life conditions (Samet 1996, and most recently, FTC 1999). Regulation of emissions from cigarettes, however, appears to be at least temporarily off the agenda in the US, with lengthy court appeals of claims by the Food and Drug Administration for jurisdiction to regulate tobacco contents (*Brown and Williamson Tobacco Corporation and Others vs Food and Drug Administration 1998*). The Commonwealth of Massachusetts is the only US jurisdiction to have legislated to require disclosure of tobacco additives. The provincial government of British Columbia in Canada has recently passed legislation mandating full disclosure of tobacco product ingredients, and of a very large number of tobacco smoke constituents as measured both using the FTC method, and under 'intense smoking' conditions—with ventilation holes blocked (*Tobacco Sales Amendment Act 1999*).

The European Commission has recently announced that it will legislate to further restrict cigarette tar and nicotine yields. Key figures in tobacco control (Bates et al 1999) have warned, however, that further reductions in tar and nicotine yields as measured by the ISO/FTC method will be largely cosmetic and certainly misleading to consumers. If a new EC Directive were to use the ISO/FTC methodology as a basis for regulation, it would risk lending further official support to the concept of 'low-tar' cigarettes, which may be used by smokers as an alternative to smoking cessation. After extensive discussion with researchers and policy specialists, including members of the Australian Cancer Society's own Tobacco Committee, Bates and his colleagues make a number of recommendations for the way forward on cigarette regulation in Europe. These, together with the Massachusetts disclosure laws and the British Columbia testing protocols, provide bench-marks for cigarette testing.

A new set of clearly, simply-worded warnings with illustrations recently proposed by Canadian health organisations and being considered by the Canadian Department of Health ([www.smokefree.ca/TobaccoorKids/tobaccokidss2.htm](http://www.smokefree.ca/TobaccoorKids/tobaccokidss2.htm)) represents the international benchmark for cigarette health warnings, with generic packaging an ideal (Cunningham and Kyle 1995) not yet approached in any country. Health warnings in Australia differ from these benchmarks both in content and typographical layout, and, after almost five years 'in the field' are showing some signs of wear-out. There are currently no warnings for stroke and peripheral vascular disease. Much new research has been published recently on health effects about which the public would also currently be largely unaware, and about which warnings would also be warranted—effects on the skin (Smith and Fenske 1996) vision (Mitchell et al 1999), erectile function (Bortolotti et al 1997) and osteoporosis (Deal 1997) to name a few.

Cigarette testing methods and labeling requirements are currently open for discussion in Australia, with a recent routine review of cigarette labeling by the Department of Industry, calls by the Department of Health and Aged Services for Treasury to undertake a review of current health warnings, and the current NHMRC investigation of nicotine-enhancing additives. This was initiated by the Government in its 1997 response to recommendations of the Herron Inquiry, presented to Parliament in December 1995. The Government's recently endorsed *National Tobacco Strategy 1999 to 2002–03: A Framework for National Action*, prepared for the Ministerial Council on Drug

Strategy (MCDS) (NEACT 1999) also provides a rationale for a review of policies on both cigarette testing and nicotine regulation.

## Policy goals: ideal regulation of tobacco and other products delivering nicotine

The overall goal of tobacco and other nicotine product regulation in Australia should be to minimise public health consequences of tobacco and nicotine use by ensuring that companies:

- 1 take all technologically possible measures to minimise the harmfulness of their products
- 2 inform consumers, fully and in the most effective manner possible, of the health risks of exposure
- 3 promote smoking cessation and use of alternative nicotine delivery systems (and non-nicotine smoking cessation pharmacologies) in such a way as to maximise, not necessarily use and profits, but public health benefit.

Based on these objectives and the recommendations of Bates et al 1999, the following policy targets would apply to Australia.

### Establish a new basis for measurement, regulation and labelling tobacco products with:

- upper limits and progressive reductions for
  - concentrations of known carcinogens and other toxins in smoke and
  - ratio of specific carcinogens and other toxins to nicotine
- possibly a new measure of total toxicity and
- an upper limit for nicotine yield.

### Remove misleading tar yield numbers on cigarette packaging

Amend Trade Practices regulations to remove misleading FTC/ISO tar and nicotine yield ratings from cigarette packaging and replace with any new measures developed, as above.

### Remove misleading 'low-tar' or 'lights' branding

Prohibit companies from branding tobacco products with terms such as 'light' or 'mild' or from using colour gradations or other techniques to imply health benefits unless a genuine evidence-based health benefit can be established by each company to the satisfaction of the appropriate regulatory agency.

### Regulate tobacco product additives

Require tobacco companies marketing in Australia to seek approval for use of all existing and new additives, making a case in terms of the intended purpose, and secondary purposes or unintended effects of the additive—not simply the toxicity of the additive itself. Ban specific additives such as those with burn enhancing properties, or those that enhance addictiveness or palatability.

### Require full disclosure

Require tobacco companies to disclose to the public, for each of the brands they market:

- ingredients including additives
- smoke constituents including concentrations of known carcinogens and other toxins and irritants in smoke, and the ratio of such constituents to nicotine
- nicotine content, the proportion of nicotine in 'free' form in smoke and a puff-by-puff pH profile
- the percentage ventilation of cigarette filters.

### Require additional health warnings through the media and on tobacco packaging

These should cover health conditions not covered by current warnings (for example, stroke, peripheral vascular disease, macular disease, oral cancer, possible links to breast cancer). Also, amend regulations to mandate improvements in the form (wording, graphical presentation and frequency of rotation or review) of all Australian health warnings, using the proposed new Canadian warnings as a minimum standard for design.

### Monitor societal nicotine dependence

Regularly monitor population exposure to nicotine—both through tobacco and through alternative nicotine delivery products—in population surveys.

### Develop regulatory capacity

Establish a regulatory mechanism with a mandate to minimise the negative impact of tobacco and related industries on public health, and a statutory requirement to commission and consider ongoing monitoring and research as a basis to guide its rulings for the control of production, packaging, marketing and sale of all nicotine-containing products in Australia.

A comprehensive program of research is required to generate data and arguments to persuade courts and governments to embrace these policy targets. Research is also required to guide courts and regulators on how best to enact them.

## Research questions

In this section, the questions presented in **bold** are rated ‘standout’ ideas.

### Very useful

**How dangerous are Australian cigarettes? For instance, what substances appear to pose the greatest risks to health? What levels of those irritants, toxins and carcinogens that currently seem most significant are found in commonly used cigarettes in Australia? In particular, what are the levels of BaP, which is a squamous carcinogen in animals and a fair surrogate for other poly-aromatic hydrocarbons, and NNK, which is adenocarcinogenic to the lung and is a fair surrogate for nitrate levels and some other nitrosamines such as NNN?**

Do these vary significantly from levels observed in cigarettes produced in other countries?

Do Australian cigarettes vary over time in terms of levels of these carcinogens, irritants and toxins?

**How informed are the choices people make about smoking, for instance, what percentage of people have an accurate understanding of the meaning and significance of current CO, nicotine and ‘tar’ readings?**

**How can the various substances in tobacco smoke best be measured in order to simulate or approximate actual delivery levels to smokers under real-life smoking conditions?**

**What percentage of smokers are currently unaware or have an incomplete understanding of each of the various health risks posed by smoking?**

**What percentage of smokers understand the risks associated with smoking, in particular, those in relation to:**

- stroke
- peripheral vascular disease
- macular disease
- oral cancers
- impotence

- and possibly cervical cancer and breast cancer?

Could the presentation of health warnings be improved to increase effectiveness? For instance, would illustrations improve recall and comprehension of warnings? What typeface, background, type colour and kind of border maximise readability both up close and from point of purchase? Would sentence case be preferable to upper case?

How frequently should new warnings be introduced and how should existing warnings be rotated to maximise impact? What public relations strategies would enhance attention to warnings?

Would generic packaging increase the impact of the warnings, and make cigarettes significantly less attractive to young people? Are there any sub-groups for whom plain packaging may increase product appeal?

Or, reframing the above in economic terms, to quantify the lack of 'consumer sovereignty':

- what percentage of people do not fully understand:
  - the constituents of tobacco smoke and their immediate effect on the body
  - the various health risks associated with long-term use of tobacco products?
- what percentage of people might avoid smoking if they were fully aware of the nature of the product and the risk of long-term exposure to tobacco smoke?
- what percentage would avoid or stop smoking if they could overcome the addictive effects of nicotine?

How much public support is there for improved product regulation? For instance, what percentage of people would be in favour of more comprehensive disclosure of additives, smoke constituents and addictive capacity, and more comprehensive and more explicit health warnings? What percentage would be in favour of mandatory progressively reducing levels of carcinogens?

What percentage of people would be less likely to vote for a candidate who failed to support tobacco product regulation?

What factors affect the addictive potential of smoking? For example:

- What substances in cigarette smoke and what smoking behaviours maximise blood nicotine levels? What additives and what aspects of cigarette design are responsible for these substances and behaviours?
- What do industry documents released as part of litigation settlement say about nicotine manipulation and about product modification?
- How do smokers of cigarettes of various nicotine levels actually hold their cigarette? Do they occlude the ventilation holes? What percentages smoke harder at lower nicotine levels? Do these percentages change over time? Can people train themselves not to smoke harder?
- How important is nicotine to overall smoking 'satisfaction'? Provided comparable levels of nicotine were delivered, for what reduction in risk would smokers be prepared to forgo overall smoking 'satisfaction'? Would this be affected by relative prices of standard and less hazardous products?
- Are there modes and/or levels of consumption of nicotine where it is satisfying but not addictive? How do patterns of dose (amount and number) contribute to addiction?

Do alternative nicotine delivery systems offer the potential to reduce harm from smoking? For instance:

- Will smokers use ANDS when 'superior' cigarettes are still available? How much less expensive do they need to be? How much do you need to reduce the 'superiority' of current cigarettes?

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- What patents have been lodged in Australia and elsewhere for various ANDS?
- Might ANDS be attractive to children and other current non-users?

Re-framing the above questions in economic terms:

- How much does harmfulness of the product need to be reduced to compensate for any reduction in the percentage of people refraining from smoking?
- What proportion of mortality and morbidity might be avoided if the product was modified to the least harmful level technologically possible?
- What are the associated direct and indirect costs? What would be the costs of product regulation, to government, to the industry and to consumers?

Which existing or new legislation should be amended or introduced to include the desired controls, warnings and labeling? What provisions should be included in such legislation to ensure effectiveness?

What would be the current regulatory barriers for the sale of ANDS in Australia, and how might these best be overcome?

What can we learn from current and proposed Australian and overseas regulatory regimes for tobacco and for pharmaceutical products, illicit drugs and poisons? What principles of institutional design should be applied?

### Useful

Can smokers differentiate between brands on taste (Jaffe 1986)? Can loyal smokers tell the difference? If not, might this be helpful in arguing against ingredient secrecy?

## Considerations for funding bodies

Much of the research in this area is of international significance. While there is limited expertise at present in the biochemical and pharmacological areas, Australia is uniquely placed to contribute to the behavioural, communications, health, economic and legal research effort required in this area.

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# Reducing exposure to environmental tobacco smoke



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## Background

Reports from the US and Australia, as well as several recent meta-analyses, have concluded that there is substantial evidence that exposure to environmental tobacco smoke (ETS) is harmful. It is a cause of sudden infant death syndrome, the development of asthma, middle ear infections and acute lower respiratory tract illness in children, and of eye and nasal irritation and nasal sinus cancer and lung cancer in adults (NHMRC 1987 and 1997, US EPA 1992, Californian EPA 1997, Hackshaw et al 1997, Law et al 1997, Poswillo 1998). Evidence that ETS is associated with childhood cancer and stroke in adults is also highly suggestive (Law et al 1997, Bonita et al 1999). In 1997, the Californian EPA concluded that passive smoking is a cause of death from heart disease and morbidity from acute and chronic heart disease. By 1998 the Report of the Scientific Committee on Tobacco and Health (Poswillo 1998) had also concluded that passive smoking is a cause of heart disease, and noted that ‘if current published estimates of magnitude of relative risk are validated, such exposure represents a substantial public health hazard’ (p 10).

Smoke-free policies that eliminate indoor smoking are the most effective way of substantially reducing exposure to ETS (to a level that would protect from litigation), since there is no evidence of a threshold level below which exposure is safe (US EPA 1992).

Since people spend about 90 per cent of their time either at home or work, those at greatest risk are those who live with smokers and those who work where smoking is allowed. In addition, some groups are at particular risk because of their age or health status—these include infants and children; people with chronic conditions, such as asthma, chronic obstructive pulmonary disease and vascular disease; and those in certain occupational settings where levels of exposure are high—these include casino workers and restaurant and bar workers (Davis 1998). Use of air conditioning and ventilation and provision of separate areas for smokers and nonsmokers are strategies strongly promoted by those aligned with the tobacco industry. However, elimination of ETS, rather than restriction, is the preferred option, as it ensures maximum protection of nonsmokers, is easier and less expensive to implement, and avoids exposing smokers to the added risk of concentrated ETS in designated smoking areas (Siegel et al 1995).

Before and after studies consistently show that, following their introduction, opposition to smoke-free policies falls and approval increases (Borland et al 1990, Hocking et al 1991), and that impacts on patronage and profitability are minimal, despite high levels of initial concern (Glantz 1999, Glantz and Smith 1997, Hyland et al 1999). In general, smoke-free policies are self-enforcing (Jacobson and Wasserman 1997), but concern about lack of compliance can be a barrier to implementation.

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## Policy/program relevance

Uptake of smoke-free policies by workplaces has plateaued in the past few years. At present, around 65 per cent of indoor workers do not experience smoking indoors (Wakefield et al 1996, Borland et al 1997). Small workplaces are least likely to have smoke-free policies (Wakefield et al 1996). Hospitality venues have been especially slow to take up smoke-free policies, contrary to customer preferences and in contravention of their responsibilities under occupational health and safety legislation to protect the health of their staff (Schofield et al 1993, Jones et al 1999, Trotter 1998, Eisner et al 1998).

In general, Australians, including smokers, already accept that exposure to ETS is hazardous to health (Trotter and Mullins 1998, Wakefield et al in press)—indeed, anecdotal evidence suggests that some underplay the risks of active smoking by comparison with passive smoking. A clear majority are supportive of smoke-free policies in most venues, including outdoor venues (Trotter and Mullins 1998, Frost et al 1996). There is considerable room for adoption of smoke-free policies in domestic environments, such as private homes and vehicles and these are especially important environments for protecting children from exposure to ETS (Trotter and Mullins 1998, Wakefield et al 1998).

Apart from protecting nonsmokers from exposure to ETS, smoke-free policies may also influence current and future smokers (Chapman et al 1990). By restricting opportunities to smoke, smoke-free policies require smokers to modify their smoking behaviour. There is good evidence that smoke-free workplaces reduce daily consumption among continuing smokers (Chapman et al 1999), although it is possible that the cigarettes smoked during work breaks may be smoked ‘harder’ than they otherwise would, perhaps partly or fully offsetting any benefits of reduced consumption (Chapman et al 1997). The evidence that smoke-free policies promote quitting is mixed (Chapman et al 1999). If there are significant reductions in daily consumption following the introduction of smoke-free workplaces, this information can be factored into evaluations of the overall impact of smoke-free policies. Another corollary of fewer opportunities to smoke is that this may prevent uptake of smoking among adolescents, or at least escalation of daily consumption. A third aspect of reduced opportunity to smoke is the promotion of a general message of social unacceptability of smoking.

## Indicators/monitoring

Annual (or at least biannual) monitoring should include:

- % of population that work in workplaces with smoke-free policies, and their workplace type and industry
- % of population that work in workplaces with incomplete restrictions on smoking, and their workplace type and industry
- % of population that support restrictions on smoking in various settings
- % of households that have smoke-free policies indoors and in their cars
- % of smokers who actively discourage smoking in their houses and cars
- % of smokers who refrain from smoking around children.

## Research questions

In this section, the questions presented in **bold** are those rated ‘standout’ ideas.

Issues considered in this area of tobacco control research included health effects of exposure to ETS, extent of exposure to ETS, extent of smoke-free policies, public opinion and awareness, uptake of and compliance with smoke-free policies, effects of smoke-free policies on smoking behaviour, and opponents of smoke-free policies.

## Very useful

(Information urgently required for Australian policy-making or program development; research study very feasible.)

While there is good evidence from studies in the US to answer these questions, local research would provide confirmatory evidence that findings from the US apply in Australia. These represent the biggest impediments to adoption of smoke-free policies.

**What are the full economic costs and benefits of smoke-free policies in different venues, especially in restaurants and hotels/licensed bars? In particular what are the full costs and benefits of strategies (ventilation) suggested by the tobacco industry, compared with those suggested by health groups (statewide smoking restrictions in all indoor areas)?**

What are the preferences of and perceived risks to employees of hospitality venues with regard to smoke-free policies?

What are the levels of claims in relation to workplace-related respiratory and other illnesses in venues that still allow smoking compared with those that do not?

Infants and children receive most exposure to ETS in domestic environments and many parents still smoke indoors. Protection of children in these environments will rely heavily on an educational approach, rather than regulation, and there are few studies of intervention programs (and no published studies in Australia) that encourage parents to make their homes and cars smoke-free.

How do smoker parents appraise the risks of exposure to ETS for their own children, in relation to their own smoking habits and in their own homes and cars?

**What programs would be most effective in encouraging parents to adopt smoke-free policies in private homes and cars?**

## Useful

(Information that would be indirectly or generally helpful to policy-making or program development; research study is feasible.)

Small workplaces are most likely to permit unrestricted smoking and uptake of smoke-free policies in these environments has stalled. Assessment of the immediate effects of exposure to ETS by employees would provide strong evidence that the workplace is responsible for discomfort and ill health, thereby increasing pressure on employers to adopt smoke-free policies.

What strategies are most effective in encouraging adoption of smoke-free policies by small workplaces?

What strategies facilitate adherence to and accelerate compliance with smoke-free policies?

How well do venues comply with smoke-free policies and how satisfied are proprietors with policies, especially those who initially opposed their introduction?

What are the immediate measurable effects of exposure of employees to ETS at work?

The effects of smoke-free policies on smoking behaviour have been relatively under-studied. The issue as to whether reductions in consumption may be clinically significant is pivotal to determining whether smoke-free policies benefit smokers. There has been some comment about the 'unfairness' of smokers being able to take unscheduled breaks to smoke, compared with nonsmokers or smokers who choose not to, or are unable to take unscheduled breaks. There has been virtually no research looking at the impact of smoke-free policies on the uptake of smoking.

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Do apparent falls in daily consumption following the introduction of smoke-free policies persist over time?

What is the likely net effect of (say) a 20 per cent reduction in daily consumption on health outcomes—is this clinically significant?

Are there differences in smoking-related morbidity (for example, sick leave) between smoke-free and non smoke-free workplaces?

Are there differences in productivity for smokers who do and do not take unscheduled breaks from work to smoke?

How do venues increasingly subject to smoke-free policies accommodate smokers (for example, increased provision for outdoor dining; un/scheduled work breaks) and what effects does this have on perceptions of their smoking behaviour?

Is there a trend for smokers being more prepared to go outside to smoke in general, as smoke-free policies become more prevalent?

Do smoke-free workplaces reduce uptake of smoking by adolescents and prevent or delay escalation of daily consumption?

There have been small scale, ad hoc and specific statewide studies of exposure to ETS and prevalence of policies, but national data are lacking. Such data would provide a measure of social inducement to smoke, identify environments where progress is slowest and would furnish information for calculation of attributable risk estimates.

What is the prevalence of exposure to ETS, who is most exposed, and at what level?

What measures are most sensitive in assessing variation in exposure to ETS?

What are the environments that now most contribute to exposure to ETS?

What is the prevalence (and type) of smoke-free policies in different venues?

### Of some use

Given that the public already accept the risks of exposure to ETS and support smoke-free policies, ongoing monitoring of this is of medium priority. However, levels of acceptance and support among smokers are lower and need to be monitored, since acceptance among smokers of the need for smoke-free policies and the preparedness of smokers to go outside to smoke will be likely to influence resistance to adoption of smoke-free policies. High occupational health risks for hospitality staff are often not salient in the debate about smoke-free policies and there are few data on their awareness of these risks. In relation to domestic smoke-free policies, data on opinion and awareness would assist development of educational intervention programs where formal policy intervention is less likely (for example, private homes). However, research into domestic environments where it is theoretically more likely that smoke-free policies could be introduced, such as in rental properties, would be of interest.

How do the public, and smokers in particular, appraise the risks of smoking compared with the risks of exposure to ETS?

How is public opinion (including among smokers) changing in relation to smoke-free policies in 'slow to move' venues, such as hotels and licensed bars, and in relation to domestic environments, such as private cars?

Given the additional costs of cleaning and higher risks of domestic fires, what would be the views of housing authorities who provide homes to rent, about the establishment of smoke-free policies in premises under their authority?

If links to the tobacco industry can be exposed, it would provide information to undermine the apparent

independence and credibility of opposition to smoke-free provisions among policy-makers and the owners and managers of venues. Revelation of such links could also influence the general public's attitude to smoke-free policies.

What specific tactics does the tobacco industry use in Australia to counter the introduction of smoke-free policies?

To what extent do the public believe specific statements made by the tobacco industry, and, in general, perceive them to be truthful?

Do members of parliament who receive any contributions from the tobacco industry and/or its 'front groups' hold beliefs more disposed to permitting smoking?

### Less useful

(Information already available; considerable research effort already under way in other countries; research difficult to implement in Australia due to methodological or confounding problems.)

Since the threat to health is established for conditions such as lung cancer in adults, asthma and lower respiratory illness in children, further research to refine the quantitative estimates of hazard, the mechanisms underlying epidemiological observations, or the relationship between passive smoking and other diseases is of only low priority. Studies attempting to quantify longer-term risks to employees will become increasingly difficult to conduct as smoke-free policies are extended and the mobility of the workforce increases.

How strong is the link between ETS and under-researched conditions, such as acute myocardial infarction, stroke, childhood cancer and acute irritant effects?

What is/are the mechanism/s underlying the link between ETS and disease?

How does level (duration/volume) of exposure relate to increases in risk for disease, or to immediate physiological effects (such as asthma, vascular changes)?

What are the longer-term health risks posed by exposure to ETS among workers?

## Considerations for funding bodies

The tobacco industry will strongly contest results of research concerning the effects of ETS on health and the economic impact of smoke-free policies. Investigators and research methods need to be of the highest calibre, and procedures will need to be in place to defend results of research against public criticism and possibly legal challenge.

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## Economic issues

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### Background

The goal of all health services activities and programs is to improve the health of the people (Torrance 1986). In an environment of **scarcity** (limited resources, unlimited wants), **choices** must be made about how to allocate resources. Economics as a social science considers decision making with respect to resource constraints. It can assist health service managers and funding bodies to make optimal decisions: it can help them to minimise the **opportunity cost**, that is, the value of the best alternative foregone.

Smoking as a behaviour, and smoking prevention as a policy objective, both result in a considerable use of scarce resources. There has been considerable interest in assessing the resource implications of tobacco use and tobacco control.

### Costs and benefits of smoking

Estimating the economic costs of tobacco smoking involves an attempt to assess in monetary terms the damage that results from the use and misuse of tobacco. This includes various costs:

- **direct**—the cost of physicians time, hospitals, drugs and other health care costs including cost of health care interventions
- **indirect**—the cost of lost productivity or absenteeism
- **intangible**—the monetary value of pain, grief and suffering and other non-financial outcomes of disease and medical care.

It may be, however, that smoking also provides some benefits to society. Relevant here are notions of:

- **consumer surplus**—the difference between the value of a product and its price, that is, how much a consumer is willing to pay
- **producer surplus**—the difference between a producer's total revenue and the opportunity cost of production
- **value added**—the value of a firm's output minus the value of the inputs bought from other firms; taxation receipts.

Note however the so-called 'Warner argument' (Warner 1993):

- economic benefits would exist in the complete absence of the industry
- instead of spending money on tobacco products, consumers would spend their money on other goods and services
- this spending, in turn, would generate jobs, income and taxes just as spending on tobacco products does today.

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## Costs and benefits of tobacco control

It is also crucial to assess the effectiveness of various tobacco control strategies, both in order to make the case for a greater share of government expenditure, and to ensure that best use is being made of scarce government resources. Here, the standard tools of economic analysis are appropriate but infrequently used. It should be said however, that a greater onus of proof is often required of preventive strategies compared with medical treatments. Nigel Gray has raised the notion of **relative waste**. A failed tobacco control strategy probably entails less cost and fewer negative effects on health and quality of life than a failed chemotherapy treatment or a radical prostatectomy that results in incontinence and impotence.

## Policy/program relevance

### Costs and benefits of tobacco use

Taxation receipts from tobacco product consumption provide governments with a valuable source of revenue. Evidence suggests that tobacco taxation revenue considerably outweighs tobacco-related government expenditure (Doran et al 1996). However, in assessing the social impact of tobacco consumption, one must consider a wider range of costs associated with tobacco-related illnesses. For example: smoking results in considerable indirect costs borne by the private sector (Collins and Lapsley 1996) as well as very great intangible costs borne by smokers and their families and friends. Further consideration of costs from a societal perspective would shed light onto the full extent of the impact of smoking within our community.

### Tobacco control in the health care system

At present there is little financial incentive in Australia:

- for doctors to spend time on preventive counselling and screening
- for hospitals or the health care networks to which they report, to address community smoking or smoking among clients
- for State Governments to implement tobacco control policy.

### Resources for tobacco control

The amount of funding devoted to anti-smoking education and other tobacco control strategies in Australia appears to be very small in comparison to that provided to many other programs aiming to prevent a much smaller number of deaths.

Closer **scrutiny** of government commitments (including funds) to anti-smoking education, including to particular target groups would appear to be warranted. Economic analyses could help persuade governments that preventing tobacco use is good value for money.

### Making the best of scarce resources

In this environment it is also crucial to ensure that the best use is being made of scarce resources for tobacco control. Tobacco control researchers need to promote and encourage the implementation of cost-effective smoking control strategies. Tobacco control programs need to monitor and revise **priorities** regularly, to ensure strategies are appropriate and effective. Resources need to be channeled into areas that will promote greatest gain among priority groups, for example, adolescents and lower socio-economic groups. There is also potential to **export and import** effective anti-smoking policies, thus offsetting some of the development and evaluation costs. Promoting tobacco control in Pacific isles could reduce future aid requirements.

## Workforce development

Many people working in tobacco control have reservations about the applicability of many current economic analyses in assessing the usefulness of strategies. Greater collaboration between tobacco control practitioners and health economists could help to improve the relevance, reliability and applicability of the current research effort.

- more focus on **educating** researchers on the correct use of economic evaluation techniques
- development of **protocols** to assist researchers in identifying most appropriate technique
- development of user-friendly **guidelines** for conducting economic evaluations.

## Indicators/monitoring

On an annual and preferably State-by-State basis, what are the costs attributable to smoking:

- hospital bed days and direct hospital costs due to smoking
- total direct health system costs due to smoking (including nursing homes, pharmaceuticals, medical costs)
- indirect costs to the private sector
- tangible and intangible costs to individuals?

## Cost descriptions

The CBRC is currently managing two national projects valuing tobacco control education, one quantifying annual anti-smoking education expenditure in eight separate categories for more than 40 government and non-government organisations, the other quantifying expenditure by the same organisations in 66 categories over each separate month of the National Tobacco Campaign. Further work needs to be done to standardise and refine the approach to cost descriptions.

## Input descriptions

More work needs to be done in Australia on quantifying other aspects of tobacco control policy such as enforcement effort, industry promotional expenditures, etc.

## Research questions

In this section, the questions presented in **bold** are those rated 'standout' ideas.

### Very useful

**What is the role of the tobacco industry in the Australian economy (reference to export earnings, import costs, crop diversification, employment, value added, taxation contributions, etc)? What would smokers spend their money on if they did not smoke? How much of tobacco industry profit stays in Australia and how much goes to offshore shareholders?**

**What opportunities might be provided by the GP Reform Agenda—divisions, practice accreditation, improving the relevance and quality of continuing medical education, recruitment of indigenous GPs, rural incentives and support schemes, and computerisation—for encouragement of GP activity on tobacco control?**

**What funding incentives might be used to encourage State Government, health care networks and health professional educational and advocacy activities to discourage tobacco use? For example:**

- contracts between Commonwealth and States (public health partnership agreements, Medicare)
- performance indicators in contracts between State health department and health care networks and in job contracts with senior managers and physicians
- Medicare rebates to GPs, physicians and specialists for preventive activity.

What is the future of the corner shop in Australia, and what role do tobacco sales play in the viability of such operations? How might such operations remain competitive in an environment of greatly reduced tobacco use?

Can we quantify the net economic costs and benefits to low-income groups of tobacco control policy?

Are treatment costs higher for patients who smoke?

What might be the costs and benefits of cessation vs harm-reduction strategies for consumers, government and business?

What is the cost-effectiveness of each of the major activities undertaken by Australian Quit organisations? What are the relative costs of providing services on a national compared with State basis?

What have been the costs of tobacco control since 1983 compared with the likely future reductions in costs (and benefits)? What percentage of deaths and quality adjusted life year gains are attributable to tobacco control policies?

### Useful

What opportunities (and barriers) are provided by a shift from public to private hospital care, and by emerging models of health care funding and service provision, for example, managed care?

### Of some use

What is the impact on consumer quitting and health service utilisation and satisfaction where health care providers actively advise against smoking?

## Considerations for funding bodies

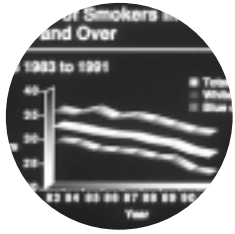
In January 1999 the Victorian Health Promotion Foundation called for tenders for the establishment of a Tobacco Control Research Centre to undertake research on legal, economic and societal aspects of tobacco control. In July 1999 a consortium of researchers from the Anti-Cancer Council of Victoria, Monash University and the University of Melbourne were selected, headed by Dr Ron Borland. A research program is currently in development.

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## Monitoring issues

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### Background

**H** Prevalence data can be obtained from a range of sources including the following:

#### National Health survey

**C** The Australian Bureau of Statistics conducts a five-yearly household health survey using a random sample of Australians. Questions on smoking are included which provide data on prevalence.

#### National Drug survey

**R** The Commonwealth Government first conducted this survey in 1985. It has been conducted at irregular intervals six times since this date and provides data on patterns of smoking use.

#### Tobacco Use Among Australian Adults

**A** This national survey commenced in 1974 and is conducted three-yearly by the Centre for Behavioural Research in Cancer. Five thousand persons aged over 16 years are interviewed to obtain prevalence estimates of tobacco use among the Australian adult population at regular intervals and to monitor relevant key health beliefs and attitudinal variables.

#### Tobacco and Alcohol Use Among Australian Secondary School Children

**E** To obtain prevalence estimates of tobacco smoking among secondary schoolchildren each State conducts a three-yearly survey. The Department of Health and Aged Care coordinates this data collection. In total around 30,000 students from over 300 schools are surveyed.

#### Victorian and South Australian Smoking and Health surveys

**S** In Victoria since 1984 and South Australia since 1989, trends in smoking behaviour and related attitudes and knowledge have been monitored annually through household surveys. In Victoria these have been coordinated by the Centre for Behavioural Research in Cancer and have been conducted by a market research company. Sample sizes have been around 2,000 people. From 1989 onwards telephone surveys have supplemented household surveys. Since 1989 the South Australian household survey has been conducted by Harrison's Health Research, with a sample size in excess of 3,000. The surveys were coordinated originally by the Research and Evaluation staff at the SA Smoking and Health Project, and are now managed by the Anti-Tobacco Research and Evaluation Program.

**R** **Consumption** is monitored through figures on taxes on tobacco as well as survey. The Victorian Smoking and Health survey provides annual information on the number of cigarettes consumed per day by Victorian smokers.

**Quit campaign activities** are evaluated through household surveys, telephone interviews and intercept surveys in most States in Australia.

Evaluation of the **National Tobacco Campaign** (1996 to 1998) has included various monitoring projects:

- **Retail Price survey** monitors retail tobacco prices across Australia
- a **Tracking Telephone survey** is conducted on a regular basis and provides data on prevalence and quitting behaviour
- **Media Monitoring project** evaluates national media coverage gained and influenced by the campaign during 1997 and 1998.

In 1999 the Australian Institute of Health and Welfare added a set of standard questions to measure the use of tobacco in a study population to the National Health Data Index (AIHW 1999). It is hoped that researchers and evaluators will now convert to this standard.

## Policy/program relevance

Such monitoring:

- defines size of problem
- shows trends
- identifies targets
- is used for advocacy and PR for tobacco control objectives and funding.

## Indicators/monitoring

Required is:

- regular, consistent monitoring of estimated morbidity and mortality caused by smoking, and resultant social costs, preferably on a State-by-State, annual basis
- regular, consistent monitoring of smoking prevalence and tobacco consumption, preferably on a State-by-State, annual basis
- monitoring of key population smoking attitudes, beliefs, intentions and behaviour
- monitoring of policy and program indicators.

National smoking prevalence and reported consumption should be monitored on an annual rather than three, or five-yearly or ad hoc basis as at present. Per capita cigarette and tobacco consumption should also be monitored annually.

(See also the Indicators/monitoring section of all previous sections.)

What are the public beliefs about smoking, quitting intentions, and attitudes to tobacco control policies in States outside Victoria and South Australia (where these are monitored, many indicators on an annual basis)?

How does price fluctuate across time and between places?

How do social attitudes to smoking vary over time? For example, what is the proportion of classified ads (share accommodation, lonely hearts) requesting nonsmokers?

## Research questions

In this section, the questions presented in **bold** are those rated 'standout' ideas.

## Very useful

How do we quantify activity and expenditure levels on tobacco control programs?

How do we measure/monitor the cultural environment relevant to smoking?

And, if these can be measured accurately, what are the relationships between input variables (tobacco control interventions), outcomes (for example, prevalence) and confounding factors (for example, price, cultural environment)?

## Useful

What is the impact of the ethics committee requirements on measurement? And how do we overcome difficulties associated with having to obtain active consent from parents for school surveys?

How do we link and relate surveys giving different point prevalence estimates? (Due to sampling, questions form, or random factors)

How can we measure lower levels of tobacco use, that is, very occasional use?

What is the Australian data on tobacco industry expenditure? (How can we obtain this information?)

## Of some use

What objective means can be used to quantify smoking among nurses?

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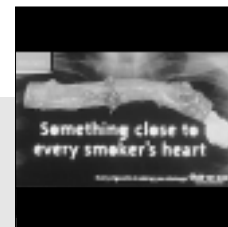
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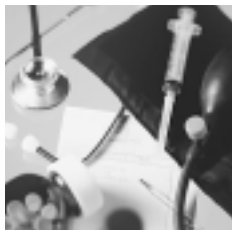
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## Attachment 2

### List of people who participated in the ranking process

PRIORITY AREAS	EXPERT REVIEWERS
<b>Informing the community: public information campaigns</b>	David Hill, Rob Donovan, Ron Borland, Tom Carroll, Caroline Miller
<b>Promoting cessation of tobacco use</b>	Ron Borland, Lyn Roberts, Amanda Nagle, Andrew Penman, Chris Silagy, Melanie Wakefield, Simon Chapman
<b>Reducing availability of tobacco products: taxation and price</b>	Michelle Scollo, Ron Borland, Helen Lapsley, David Collins, Harley Stanton
<b>Reducing availability of tobacco products: youth access</b>	Chris Rissel, Melanie Wakefield, Kate Purcell, Afaf Girgis, Caroline Miller, Therese Jones, Simon Chapman
<b>Regulating tobacco products</b>	Nigel Gray, Ron Borland, Michelle Scollo, Murray Laugesen, Harley Stanton
<b>Reducing tobacco promotion</b>	Simon Chapman, David Hill, Mike Daube
<b>Reducing exposure to environmental tobacco smoke</b>	Melanie Wakefield, Konrad Jamrozik, Ron Borland, Margo Goodin, Ron Edwards, Simon Chapman
<b>Economic issues</b>	Helen Lapsley, David Collins, Rob Carter, Chris Doran, Michelle Scollo
<b>Monitoring issues</b>	David Hill, Vicki White, Melanie Wakefield, Michelle Scollo, Afaf Girgis



## Attachment 3

# Public Health Association of Australia policy on NHMRC research funding and researchers who accept money from tobacco industry or parties acting on its behalf

### The Public Health Association of Australia notes that:

1. Tobacco is a unique product that kills up to half of the people who continue to use it regularly.
2. In recent years, a large amount of documentary and testimonial evidence has become available that the tobacco industry worldwide has long engaged in an internationally orchestrated process of funding researchers to produce scientifically compromised work with pre-determined outcomes that serve the tobacco industry's economic and political interests.
3. Despite a US Surgeon General's statement that "It is safe to say that smoking represents the most extensively documented cause of disease ever investigated in the history of biomedical research."<sup>[1]</sup>, the tobacco industry has long sought to deny that there is sufficient evidence available to justify various controls on the sale and use of its products. The principal areas of denial have been in the area of active and passive tobacco exposure causing disease; that nicotine is addictive; that tobacco advertising promotes tobacco use in previous non-smokers (particularly children) and that the price of tobacco products (as for example, influenced by excise tax) is influential in determining consumption.
4. A very large collection of citations illustrating this process may be found at <http://www.ash.org.uk>. The chronology of statements assembled at this site, together with many so far uncatalogued examples from millions of pages of internal tobacco company documents ordered by the Minnesota Court to be placed on the World Wide Web, illustrate that there has been an on-going, international conspiracy to use "independent" scientists commissioned by the industry to misinform legislators and the public about the effects of tobacco on health. A research literature has begun to document the various ways that tobacco industry funded scientists systematically report findings that tend to favour tobacco industry policies on tobacco [2–7].

5. The Tobacco Institute of Australia, a joint industry body formerly representing the three tobacco companies active in Australia, has been found guilty of “misleading and deceptive conduct” under the Trade Practices Act (Cwth) in regard to its public statement that “there is little evidence and nothing which proves scientifically that cigarette smoke causes disease in non-smokers”.
6. The Tobacco Institute of Australia also sought repeatedly to influence the conduct and outcome of the National Health and Medical Research Council’s most recent inquiry into the effects on health of passive smoking. Among some of the reports and opinions commissioned by the Institute and submitted to the NHMRC review were several written by members of the academic staff of Australian universities and presented as originating from the universities employing those individuals. In addition, the Tobacco Institute sought to suppress public discussion and debate of matters related to passive smoking by threatening to bring actions in contempt against members of the NHMRC panel who proposed to address meetings on the issue of environmental tobacco smoke while legal action against the NHMRC was in progress.
7. Support from the Smoking and Health Research Foundation, the successor to the Australian Tobacco Research Foundation, continues to be included in the formula used for calculating “Mechanism A” funding to Australian universities.
8. A recent review of 106 scientific reviews of evidence on passive smoking and health located from the peer-reviewed literature between 1980 and 1995. Overall, 37% (39/106) of reviews concluded that passive smoking was not harmful to health; 74% (29/39) of these were written by authors with tobacco industry affiliations. In multiple logistic regression analyses controlling for article quality, peer review status, article topic, and year of publication, the only factor associated with concluding that passive smoking was not harmful was whether an author was affiliated with the tobacco industry (odds ratio, 88.4; 95% confidence interval, 16.4-476.5; P<.001). [8]
9. Over four years ago, at least two Australian Universities would not allow their staff to accept research funding from the tobacco industry [9]. The Western Australian Health Promotion Foundation (Healthway), the National Heart Foundation and the Australian Cancer Society have all adopted policies whereby they will not provide research funds or other grants-in-aid to individuals associated with institutions where any member of staff receives support of any kind from any tobacco company, or associated individuals or organizations that serve or promote the interests of tobacco companies.
10. Similar policies are well-established internationally. Examples include:
  - The National Cancer Institute of Canada: “The NCIC will not provide funds to individuals who receive support directly from tobacco manufacturers or from the Council for Tobacco Research or from the Smokeless Tobacco Council.”[10]
  - The South African MRC: “Medical/health research which could overtly link medical health researchers to the promotion of any tobacco company, tobacco brand or tobacco-linked product, should not be permitted”. [11]
  - American Lung Association, through its journals the American Journal of Respiratory and Critical Care Medicine and the American Journal of Respiratory Cell and Molecular Biology: Effective from 1 December 1995 “will no longer accept for review or publication manuscripts resulting from investigations supported by tobacco industry funding.”[12]
  - The Wellcome Trust: “The Wellcome Trust, under the terms of Sir Henry Wellcome’s will, is required to fund research which ‘conduces to the improvement of the physical condition of mankind’ [13]. In view of the overwhelming body of evidence that both active and passive smoking of tobacco are injurious to health, the Governors would expect that individuals applying for or holding research funds from the tobacco industry will not seek support from the Trust.”

## The Public Health Association of Australia affirms that:

11. Tobacco smoking is the leading preventable cause of ill-health and premature death affecting the Australian community.
12. While the private sector has a long history of funding scientific research, both within companies and externally, through research trusts and foundations and via direct grants to researchers for both investigator-initiated and company-nominated projects, the principle of scientific independence must remain sacrosanct.
13. The history of the tobacco industry in regard to extensive evidence of its treatment of scientific data and of scientific investigators merits the application and enforcement of sanctions against that industry and those in its service or supported by it.
14. A distinction should be drawn, however, between individuals and entities directly concerned with tobacco and other sectors of multi-national conglomerates concerned with the manufacture, distribution, promotion and sale of other products and commodities.

## The Public Health Association of Australia resolves that:

15. The Council of the PHAA will take all reasonable steps to ensure that, within three years, the National Health and Medical Research Council ceases to provide support of any kind to any individual or institution that receives any financial or other support or assistance from any tobacco company or individual or entity acting on behalf of the tobacco industry.
16. The Council of the PHAA will take all reasonable steps to ensure that support from tobacco companies and related entities is removed forthwith from the formula for calculating “Mechanism A” funds to Australian universities.
17. The Council of the PHAA will, forthwith, require contributors to publications of the Association to declare whether they have received any financial or other support or assistance from any tobacco company or individual or entity acting on behalf of the tobacco industry since January 1998.
18. The Council of the PHAA will take all reasonable steps to ensure that, within three years, government and taxpayer-funded entities of all kinds throughout Australia will cease to provide support of any kind to any individual or institution that receives any financial or other support or assistance from any tobacco company or individual or entity acting on behalf of the tobacco industry.

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**Adopted at the 1998 Annual General Meeting of the Public Health Association of Australia**