



Tobacco Association of Hong Kong
香港煙草業聯會

LC Paper No. CB(2)2677/04-05(01)

**POSITION PAPER ON
THE SMOKING (PUBLIC HEALTH) (AMENDMENT) BILL 2005**

**PRESENTED
BY THE TOBACCO ASSOCIATION OF HONG KONG**

26 September 2005

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY.....	2
2. INTRODUCTION.....	18
3. EXPANSION OF STATUTORY NO SMOKING AREAS	19
4. ADVERTISEMENT AND PROMOTION OF TOBACCO PRODUCTS.....	30
5. PACKAGING AND LABELING OF TOBACCO PRODUCTS.....	37
6. LAW ENFORCEMENT.....	50
APPENDIX 1: ECONOMIC IMPACT OF SMOKING BANS IN RESTAURANTS AND BARS IN DIFFERENT COUNTRIES/STATES/CITIES.....	51

ANNEXURES:

- A Tobacco Association of Hong Kong Code of Conduct adopted from the Tobacco Institute of Hong Kong
- B BAT guide “Dining and Entertaining in Hong Kong – For Smokers and Non-smokers” (Hardcopy Only)
- C International Tobacco Products Marketing Standards
- D 1 - Global Health Warnings on Tobacco Packaging: Evidence from the Canadian Experiment (Hardcopy Only)

2 - Comments on How Some Research Studies and Surveys Relating to Cigarette Pack Health Warnings Have Been Used in Recent Tobacco Regulation Proposals
- E Samples of the “Slide Pack Covers” from Singapore (Hardcopy Only)

1. EXECUTIVE SUMMARY

INTRODUCTION

- 1.1 Given there are health risks associated with tobacco use, we recognize that the manufacture, marketing, sale and use of tobacco products should be subject to restrictions based on reasonable and practical regulatory practice. We also believe that regulations should be necessary, fair, effective, and balanced. Given the Government's stated objectives in reducing the health impact of tobacco use, we think sensible regulation requires that the various alternative means of achieving the objectives should be considered based on the findings of cost-benefit analyses of each of the alternatives. In addition, the Government should ensure that the proposed measures are enforceable.
- 1.2 We believe that in the introduction of any new regulatory measures, the Government should be sensitive to the implications of those measures on the business environment. The Government should ensure that all the proposed changes to the existing ordinance will not be used to stifle the competition within the industry or to inadvertently discriminate against the smaller industry players.
- 1.3 As the success of developing and implementing a reasonable and practical tobacco regulatory framework would require collaborative efforts amongst the Government, the health community and the tobacco industry (including retailers), we will be pleased to work with the Government and relevant parties to consider the various alternative means of achieving the objectives of reducing the health impact of tobacco use and improving the situation of passive smoking in Hong Kong.

No Scientific Consensus on Passive Smoking

- 1.4 Many regulators continue to view public smoking bans as a panacea for the perceived threat of Environmental Tobacco Smoke. Much of the debate on ETS has been politicised and the debate has so far been inconclusive. In fact, the largest study on ETS and lung cancer, undertaken by the WHO, (*Biennial Report 1996-1997, International Agency for Research on Cancer (IARC), World Health Organisation*) found no meaningful increase in lung cancer risk for growing up, living, working, travelling or socialising with a smoker. The

most substantial sources of data on ETS and heart disease are the databases of the American Cancer Society's Cancer Prevention Study and the database of the US National Mortality Followback Survey. Analyses of these have reported no overall association between ETS and heart disease. Tobacco smoke, however, can be a nuisance to some others.

EXPANSION OF STATUTORY NO SMOKING AREAS

Draconian Proposed Measures

- 1.5 While we support the prohibitions on smoking in schools, universities and tertiary institutions, we consider other proposed smoking ban amendments are too draconian that will not produce a quantifiable public health benefit but will result in significant costs to affected businesses. Imposing a blanket smoking ban in catering and entertainment premises is not a global trend. Most of the overseas countries that have imposed smoking restrictions in catering and entertainment premises allow certain degree of flexibilities after considering the economic impact on businesses;
- i In UK, Portugal and Singapore, smoking is allowed in night entertainment outlets, including clubs, bars and pubs.
 - ii In Germany, an agreement between German Hotel and Restaurant Association and the Federal Ministry of Health was reached in March 2005 to introduce smoking restrictions in hospitality venues over a 3-year period. At the end of 1 Mar 2008, 90% of all venues offering food have to allocate a minimum of 50% of the total area as smoke-free. However, smoking ban does not apply to small establishments with less than 40 seats.
 - iii In Netherlands, the HORECA Association agreed a "Step Plan" with the government which allows for progressive restrictions over 5 years. At the end of 2008, total smoking ban will be implemented in restaurants and hotel rooms only. The rest of the venues, such as cafes, fast food stores and discos, will continue to enjoy certain level of flexibility.
- 1.6 We believe that the strong public demand for improving the situation of passive smoking in Hong Kong can be addressed without resorting to banning smoking in public places.

Smoking Ban in Cigar Shops

- 1.7 The proposed amendments have not take into consideration the serious impact on the operation and business viability of cigar shops where the manner in which cigar products are bought and consumed are very different than other tobacco products. A cigar shop may carry as many as 300 cigar products of different prices and taste. Because of cigar products' high price, stick sales is a common practice so that smokers can "taste" the product before committing to purchase a larger quantity. As it typically takes an hour to finish a cigar, separately ventilated lounges are usually set up for cigar tasting purpose.
- 1.8 A blanket smoking ban without considering this unique operation model would mean pushing the cigar shops out of business. We trust that this is not the intention of the government to create an operationally infeasible environment for the cigar business. We would therefore recommend that Hong Kong Government follows the example of New York city, California and Austria in granting exemptions to the cigar business.

Better Enforcement of Existing Legislation

- 1.9 The existing legislation provides adequate restrictions on smoking, and if these were properly enforced, the health objectives will be achieved. Instead of making unnecessary effort to amend the existing legislation, the Government should focus on the better enforcement of the current restrictions and on enhancing public understanding on the need for compliance with these restrictions.
- 1.10 Given the Government receives a substantial amount of revenue from tobacco excise that accounts to HK\$2.2 billion per year, we would support the Government to increase its per capita expenditure on tobacco control to HK\$89.7 or US\$11.50 as suggested by the Centers for Disease Control and Prevention in the United States. We believe additional public health education is the best means of reducing the health impact of tobacco use while allowing the adult use of a legal product. Currently, the budget spent by the Government on tobacco education is disproportionate to the tax revenue collected.

Adverse Economic Impact on Businesses

- 1.11 For those few countries and states that have implemented a total smoking ban, some have had a more profound economic impact than others, e.g. job losses, business closures and reduced sales volume. We have summarized in **Appendix 1** the economic impact on various sectors of the hospitality industry in various example countries/states.
- 1.12 It is very likely that restaurants, bars and karaokes in Hong Kong will also suffer economically if a blanket smoking ban is imposed - revenue will fall and jobs will be lost. Besides, Hong Kong's entertainment business is currently facing severe price competition from such neighboring Mainland cities as Shenzhen. The introduction of a total smoking ban in local entertainment business will further encourage Hong Kong people to cross the border where they could still enjoy smoking, thus making local entertainment business' survival even more difficult.
- 1.13 Tourism, one of Hong Kong's four core industries, is also likely to suffer. In particular, a total smoking ban will discourage visits paid by tourists from Mainland China, which is now Hong Kong's biggest source of tourists and where there is a 60% smoking population. Banning smoking in restaurants, bars and karaokes may encourage Mainland tourists to shorten their stay here or spend less in restaurants during their stay. These could have a serious economic impact at a time when the Hong Kong tourist industry, and indeed the whole economy, is still picking up from the economic recession the last few years.
- 1.14 Individual hospitality outlet proprietors have invested capital to cater to their existing customers (including smokers) and the Government should consider the negative impact which the proposed amendments will have on these businesses.

Industry Voluntary Action

- 1.15 Since 2001, in response to customer demand, more restaurants and bars have voluntarily banned smoking on their premises. Hong Kong has always been synonymous with economic and personal freedom, and we believe that the hospitality industry can, and should be allowed to, regulate itself to respond to market demand without the need for Government interference.

Viable Alternatives to a Total Smoking Ban

- 1.16 We do not believe that smoking bans are necessary or, indeed, are the only way that the needs of non-smokers as well as smokers can be accommodated. There are many effective solutions to banish the smoke but not the smoker. These alternatives would achieve the Government's objectives of protecting the public from passive smoking and closing loopholes in bringing about more effective enforcement of the existing Ordinance.
- 1.17 Restricted areas for smoking in combination with effective ventilation can adequately address any perceived problem related to secondhand smoke whilst maintaining an enjoyable and dynamic entertainment environment. In Italy, segregated smoking areas with adequate ventilation and air exchange equipment are allowed in restaurants, cafes and workplaces. In Malaysia, the Government has recently announced a balanced approach to smoking ban in allowing the eateries and entertainment outlets to decide on its smoking policy as long as they meet the stringent Indoor Air Quality Standards set by the Government.
- 1.18 In Hong Kong, Tobacco Association of Hong Kong (TAHK) is willing to work with the catering and entertainment sectors to introduce sophisticated ventilation systems in order to upkeep a high indoor air quality for their staff and consumers.

Extensive Industry Consultation

- 1.19 It is essential that the Government consults extensively with the hospitality industry and other relevant trade groups about the probable consequences before deciding whether to extend statutory no smoking areas. The last widespread consultation exercise which the Government undertook was three years ago in 2001, since then the hospitality industry has had to contend with a dramatic fall in business caused by SARS. We strongly suggest that the Government undertakes another economic impact assessment in relation to the proposed expansion of statutory no smoking areas.
- 1.20 The Singapore Parliament, when considering whether to extend a smoking ban to bars and some outdoor venues, announced that it would undertake a survey to ascertain the economic impact of such a change before making a decision. To ensure that the review is

objective and rational, the Health Promotion Board requested the National Environmental Agency to conduct the study.

Ventilated Smoking Rooms

- 1.21 As regards prohibiting smoking in indoor workplaces, the fact that Hong Kong's "indoor workplaces" cannot be neatly categorized should be taken in consideration. In Hong Kong there is a vast number of small to medium sized enterprises, which conduct business on a very small scale and employ only a few people. A number of those small enterprises are owned by smoking employers, employing workers who smoke. As such, the effective enforcement of a total ban would be impossible. If the Government is minded to prohibit smoking in indoor workplaces, employers should at least be permitted to provide separate, properly ventilated, smoking rooms.

ADVERTISEMENT AND PROMOTION OF TOBACCO PRODUCTS

- 1.22 We believe that we should take a responsible approach to marketing communications and continue to ensure that our activities do not appeal to or target youth. However, we maintain that adult smokers should be able to make an informed choice over which products and brands they smoke; and that we have the right to communicate to adult consumers about our products.

Severe Hardship for Small Retailers

- 1.23 We believe that licensed hawker stalls and retail outlets employing not more than two people should be allowed to continue to display tobacco advertisements. Tobacco advertising revenue accounts for approximately 20% of the turnover of hawkers' and small retailers' businesses and their livelihood would be significantly affected if they could not continue to advertise tobacco products. Finding replacement advertisers will be difficult except for the very few hawkers whose stalls are located in prime locations.
- 1.24 The exemption allowing licensed hawker stalls and small retail outlets to display tobacco advertisements was granted in 1996, specifically to prevent them suffering economic hardship. The Asian financial crisis occurred the following year, and although the economy has since recovered to some degree, hawkers and small retailers are still worse

off than in 1996 and rely heavily on tobacco products sales and tobacco advertising revenue. This is largely because of increased competition from chain stores and supermarkets, and the growth in the illicit trade in cigarettes which followed the Government's increasing of tobacco excise duty.

Effective Self-Regulatory Initiatives

- 1.25 Abuse of the advertising exemption decreased dramatically after Hong Kong tobacco companies strengthened their own code of conduct based on the then *Tobacco Institute of Hong Kong Code of Conduct* in 2001, (a copy of which is attached as **Annexure A**) that limits the size of advertisements to hawkers and small retailers. Tobacco companies also took out all advertising on umbrellas at hawkers' stalls across the territory.

Size of Price Boards and Markers Already Reduced

- 1.26 We support the Government's proposal regarding price boards and price markers. We and other tobacco companies have already changed the sizes of price boards and price markers to meet the requirements now being proposed by the Government.

Tobacco Products Promotion Commercially Essential

- 1.27 We oppose the proposal to prohibit the sale of tobacco products in association with any other product. The sale of other products in association with tobacco products is strictly a commercial initiative for tobacco companies - it is a means of communicating responsibly with adult smokers to attract them to our brands and to retain the loyalty of our customers.

Adult Target Only

- 1.28 We are not targeting at youth with such promotions. The *Tobacco Association of Hong Kong Code of Conduct*, adopted from the Tobacco Institute of Hong Kong, and the global tobacco industry's *International Tobacco Products Marketing Standards* (a copy of which is attached as **Annexure C**) both expressly prohibit marketing activities aimed at youth. We sell only smoking-related products such as lighters and ashtrays in association

with tobacco products, and we sell them at or above cost to prevent them appealing to non-smokers or youths.

- 1.29 Like all other legal businesses in Hong Kong, the tobacco industry believes that we should enjoy the fundamental right and freedom to communicate responsibly with *adult* smokers about our products.

Retain Corporate Sponsorship of Community Projects

- 1.30 As regards tobacco sponsorship, while we support the prohibition of tobacco brand name sponsorship, we believe corporate sponsorship should be permitted to allow tobacco companies to fulfill their corporate social responsibility in supporting worthwhile community projects, some of which have been part of their corporate heritage for the last few decades in Hong Kong, e.g. sponsorship of the Hong Kong Arts Festival. To this end, sponsorship opportunities should continue to be made available to tobacco companies which have in their corporate names the word “tobacco”, e.g. British American Tobacco, Nanyang Brothers Tobacco. The tobacco companies’ ability and long tradition to assist in community causes should not be fettered by unnecessarily harsh legislation. Further, the prevention of corporate sponsorship of events by tobacco companies does not contribute to government health objectives but would deprive tobacco companies of their ability to contribute to the common good of Hong Kong and deprives the local community of valuable funding of the arts and other social and cultural events.

Clarification of Existing Legislation

- 1.31 We also seek clarification of the existing legislation in relation to corporate communications which are not intended to be advertisements. The Government should clarify or make explicit exemptions to the definition of “tobacco advertisement” so that any communication which is intended only to convey information of a corporate or advisory nature, and which is plainly not an advertisement, should not be deemed to be a tobacco advertisement.

PACKAGING AND LABELING OF TOBACCO PRODUCTS

Health Warnings is to Inform

- 1.32 We agree that, given the health risks associated with the use of tobacco products, cigarette packets should carry a government health warning. We believe that health warnings should serve as a reminder to adult smokers of the Government's substantial effort in educating the public on the health risks associated with smoking. The objective is to inform rather than to scare, disgust, stigmatize, embarrass or shame smokers.

Ineffective Graphic Health Warnings

- 1.33 Health warnings in general are seen by regulatory bodies to serve two main objectives, namely,
- (a) to educate and to produce a high awareness amongst existing and potential tobacco users of the serious health problems associated with tobacco use;
 - (b) through (a) above, to produce behavioural changes, such as,
 - (i) for smokers to smoke less,
 - (ii) for smokers to be more motivated to cease smoking, and
 - (iii) for non-smokers to be less inclined to start smoking.
- 1.34 Underlying the Government's proposal to introduce graphic health warnings is the assumption that the current Textual Warnings with their stipulated wording and lesser size are inadequate, and that graphic health warnings will be more effective in achieving the above objective. Based on experience and official studies carried out by the government in Canada which has adopted graphic health warnings since 2001, it is submitted that this is flawed.
- 1.35 We believe that graphic health warnings are unnecessary and inappropriate. There is, in any event, insufficient evidence that pictorial or graphic health warnings are effective in deterring smoking. Amongst the few countries in which graphic health warnings have been introduced, Canada is the only country that has carried out official surveys to determine the effectiveness of graphic health warnings. The results of the "Wave

Studies” commissioned by Health Canada indicate that the introduction of graphic health warnings in January 2001 has **not** been associated with a reduction in cigarette consumption per smoker; has **not** resulted in more smokers making quit attempts; and has **not** been associated with an increase in the number of smokers believing that smoking is a serious health problem.

- 1.36 In light of the Wave Studies, therefore, there is no evidence of any causal or established relationship between graphic health warnings and reduction in the consumption of tobacco products or change in smoking behaviour. Instead, the likely public, and indeed normal, reaction to such images is discomfort and repulsion.
- 1.37 There is evidence that soon after pictorial warnings were introduced in Canada, some smokers purchased cigarette sleeves or jackets which covered the entire packet and hence obscured the whole of the health warnings. Such consumer behaviour (which we understand also occurs in Singapore where over 2,500 sleeves or jackets were sold in the first couple of months after their implementation of the new graphic health warnings), serves not only to obscure any graphic health warning, but *all* health warnings. (See **Annexure E** for Samples of “Slide Pack Cover”)

Is Graphic Health Warnings Necessary and Proportionate?

- 1.38 The Government carries the burden to show that the proposed legislation for graphic health warnings is necessary, and is in terms no more than is necessary and is proportionate. This involves passing at least the following hurdles:-
- (a) demonstrating that the existing requirement for Textual Warnings on tobacco product packaging is inadequate for the purpose of educating the public and maintaining a high degree of awareness of the serious risks involved in use of tobacco; and
 - (b) that such inadequacy cannot be remedied by an enhancement or updating of the texts of the warnings in order to impart better and more information; and
 - (c) graphic health warnings in the forms proposed will be more effective than Textual Warnings in both enhancing understanding of the message content

and bringing about the desired behavioural changes amongst smokers and non-smokers; and

- (d) there are no other means of communicating the message to the public.

Graphic Health Warnings could Lead to Unfair Trade Competition

1.39 Graphic health warnings will create severe financial burden for the tobacco industry. Tobacco companies will be required to incur significant costs to comply with the requirements of the proposed warnings. These include substantial redesign costs, the expense of producing new printing cylinders, losses resulting from production stoppages, as well as stock write-offs for packages already printed with the Textual Warnings. The proposed graphic health warnings will also have a differential effect on smaller tobacco companies, who unlike the large manufacturers, will lack the resources to effect the switch-over efficiently, or at all. Smaller manufacturers or brands with smaller market share may eventually be locked out of the market primarily resulting in unemployment.

1.40 A more appropriate way forward might be

- (a) To address concerns that current warnings are "stale" or "old fashioned", the language of warnings could be varied without changing the essential messages;
- (b) Consideration should be given to making warnings more constructive. As we have stated above, graphic health warnings can lead to denial of danger and an abdication of responsibility by the individual to take action. Health messages work most effectively when it is made clear to the target audience that the risk they are taking is real but that they can do something about it. More emphasis should be placed on assisting those who wish to cease smoking. Warnings could, for example, have specific links to other initiatives such as quit lines, web sites, TV, radio and press campaigns;

Legal Implication

- 1.41 It is submitted that graphic health warnings are intended to do more than inform the reader about the health risks of smoking – they will create social embarrassment by marking out the smoker as a person who, when carrying a cigarettes pack, carries on him unpleasant, repulsive even, pictorial representations of death and disease.
- 1.42 In communicating a graphic message in this way the graphic health warnings impinge on two important freedoms protected by the Basic Law: (i) freedom of expression; and (ii) freedom of private ownership of property including intellectual property rights.
- 1.43 The introduction of graphic health warnings and the size required of graphic health warnings have the effect of distorting the cigarette package beyond recognition. Cigarette package will become largely generic and the function of the packaging on a trade dress to indicate origin will be significantly undermined, which has the direct effect of wiping out any goodwill attached to the get up which is recognized as personal property of its owner. This is a blatant breach of the Basic Law (e.g. Article 6 and 105). This is downright compulsory deprivation of intangible personal property by destruction.

Freedom of Expression

- 1.44 The introduction of graphic health warnings entrenches on the freedom of publication which is an aspect of the wider concept of freedom of expression guaranteed under the Basic Law. Article 39 of the Basic Law incorporates, amongst others, Article 19 of the International Covenant on Civil and Political Rights ("ICCPR")¹.
- 1.45 Just as a person has the right to publish honest and accurate information about a product so as to inform prospective purchasers, so too he has a right not to publish information in certain circumstances. One of those circumstances is when a third party, usually Government or a public authority, coerces him into publishing information which he does not want to publish. The Supreme Court of Canada has held that the "*freedom of expression necessarily entails the right to say nothing or the right not to say a certain thing*".

¹ Article 19 of the ICCPR provides: "... Everyone shall have the right to freedom of expression .. [which may] be subject to certain restrictions, but these shall only be such as are provided by law and are necessary ... for the protection of public health ..."

Encroachment on Intellectual Property Rights

- 1.46 Mandatory graphic health warnings encroach upon at least two types of intellectual property rights with significant economic consequences to their owner, namely,
- (a) the ownership of registered trade marks as a property right recognised under the Trade Marks Ordinance, Cap.559; and
 - (b) the ownership of goodwill attached to a get-up or trade dress used in relation to the sale of the product as a property right recognised under common law.
- 1.47 The manufacturer is already left with little space on the packaging with which to enable the packaging to perform the function of distinguishing its product from others. The change in existing get-up dictated by graphic health warnings requirements will be drastic and is incapable of any gradual steps of introduction: to introduce an intermediate get-up over the grace period will make it even more confusing for consumers. To compound the problem further, unlike traders of other consumer products, members of the tobacco trade are not even in a position properly to bring to consumers' attention through advertising the changes made to the get-up.

Compulsory Deprivation or Devaluation of Private Property

- 1.48 To comply with the graphic health warnings requirements – that require a devotion of at least 50% of the area of the front and the back of the packaging for the Chinese and English versions of the health warnings respectively, any existing front and back labels will have to be distorted beyond recognition. The goodwill attached to the abandoned get-up undermined by graphic health warnings cannot be revived even if future legislation were to permit a re-use of the previous get-up. Its value will have to be written off. This is downright compulsory deprivation of intangible personal property by destruction.
- 1.49 The inevitable result will be that cigarette packaging will become largely generic, and the function of the packaging as a trade dress to indicate origin will be significantly undermined. Goodwill attached to the get-up as personal property of their respective owners will be wiped out and without compensation at a stroke. The proposition may be tested by taking the scenario to its extreme: if the Government were to decree that one

generic get-up is to be used from now on to market tobacco products, it will be impossible to say that private property is not being confiscated by such an enactment.

Contrary to Obligations undertaken by Hong Kong in International Treaties

- 1.50 Legislation requiring the inclusion of graphic health warnings may be contrary to obligations undertaken by Hong Kong as a signatory to various international treaties. These include GATT, and in particular, the Uruguay Round on Trade Related Aspects of Intellectual Property Rights (TRIPs).
- 1.51 It is submitted that implementing graphic health warnings will undermine the image that Hong Kong has been keen to promote in recent years as a jurisdiction where intellectual property rights are enforced and recognised in compliance with obligations under international treaties. This has been demonstrated by the number of ordinances passed during recent years such as the Organised and Serious Crimes Ordinance (Amendment Schedule 1) Order 1990 passed in January 2000, the Intellectual Property (Miscellaneous Amendments) Ordinance 2000 and the Trade Marks Ordinance.
- 1.52 We acknowledge that in some circumstances freedom of expression and property rights can be restricted but only where there is a pressing social need, such as public health protection and the restrictions in question are necessary and proportionate. The graphic health warnings proposal does not satisfy either of these requirements. The burden is, therefore, on the Government to demonstrate why these new graphic health warnings are now "necessary". This means producing empirical evidence to show why the simple and unequivocal health warning message that smoking can seriously damage health cannot be communicated by means other than graphic health warnings and why graphic health warnings will be effective. It needs to show also that these particular warnings – graphic and unpleasant and of a minimum size – can only be effective when placed on a cigarette packet.

Retain Tobacco Products Descriptors

- 1.53 Tobacco manufacturers make no health claims for any of their products. Descriptors like “light”, “mild” and “low tar” help consumers choose among brands based on their taste and strength preferences. Banning descriptors would be ineffective because it would not

enhance smokers' understanding of the risks associated with smoking, especially in the context of products that contain less tar and nicotine compared to other brands.

- 1.54 TAHK believes that the right solution is to educate smokers and correct any misconception by requiring tobacco companies to print an additional "Disclaimer" stating that lower tar and nicotine products are not less harmful as this will depend on how individual smokes. This is the policy currently adopted by the Japanese and Mexican governments.
- 1.55 The proposal to ban descriptors may also result in a ban on certain well established cigarette brands and trademarks such "Mild Seven". This has serious legal implications because such a ban constitutes expropriation of a tobacco company's valuable intellectual property. Although the government is using public health as the justification to ban descriptors and trademarks, independent legal advice we have obtained indicates that the proposal is disproportional because there are other less restrictive means to achieve the same public health objective.

LAW ENFORCEMENT

Current Enforcement Mechanism Not Well Coordinated

- 1.56 The Government acknowledges that the current enforcement mechanism is not well coordinated, with different government departments trying to enforce different provisions of the Ordinance. The Tobacco Control Office ("TCO") was set up in 2001 to undertake a coordinating role, but in the absence of clearly laid out enforcement guidelines, there has been much confusion in trying to enforce the provisions of the existing Ordinance.

Engage with Affected Businesses for Better Law Enforcement

- 1.57 We note the Government's proposed amendment to introduce provisions empowering staff of the TCO, to initiate prosecutions against various offences, and its intention to confer powers of enforcement on managers of indoor workplaces, restaurants and bars. However, we believe that the Government needs to go further in that it must propose specific and workable plans for enforcement of the individual proposed amendments. To this end, the Government and the TCO must consult with those who will be directly

affected by the proposed amendments (i.e. the managers of indoor workplaces, restaurants and bars) to identify the specific enforcement measures to be adopted.

2. INTRODUCTION

- 2.1 In May 2001 the Health, Welfare and Food Bureau (“HWFB”) of the Hong Kong Government proposed amendments to the Smoking (Public Health) Ordinance (Cap. 371) (the “existing Ordinance”) with the objectives of containing the proliferation of tobacco use and minimising the Hong Kong public’s exposure to passive smoking.
- 2.2 In response, in 2001 we presented a submission to the Tobacco Control Consultation Taskforce of the HWFB that highlights our comments on the proposed amendments to the existing Ordinance.
- 2.3 At the beginning of the current session of the Legislative Council (October 2004), the newly appointed Secretary for Health Welfare and Food, Dr. York Chow indicated that the Government intended to adopt the international Framework Convention on Tobacco Control, and that he hoped to introduce a bill during the current legislative year to extend the statutory smoking ban to more premises, further tighten control over the sale and promotion of tobacco products and to allow health warnings to contain pictorial and graphic contents on tobacco products.
- 2.4 On 10 January 2005 the HWFB presented a discussion paper to the Legislative Council Panel on Health Services setting out its *Proposed Amendments to the Smoking (Public Health) Ordinance*. The stated objectives of these proposed amendments are to protect the public against second hand smoking in indoor workplaces/public places, to tighten control over the advertisement and promotion of tobacco products and to bring about more effective law enforcement. The HWFB introduced the Smoking (Public Health) (Amendment) Bill 2005 to the Legislative Council in April 2005 which embodies the proposed amendments.
- 2.5 The objective of this submission is to present constructive comments and to suggest possible ways forward with respect to the Smoking (Public Health) (Amendment) Bill 2005.
- 2.6 We should clarify at the outset that we do not intend to challenge the proposed amendments in relation to the expansion of statutory no smoking areas in *educational and welfare institutions* and have not therefore addressed them in this paper.

3. EXPANSION OF STATUTORY NO SMOKING AREAS IN RESTAURANTS AND OTHER PUBLIC INDOOR PREMISES, INCLUDING WORKPLACES

SMOKING BAN IN RESTAURANTS, BARS AND KARAOKES

- 3.1 The Government proposes to amend the existing Ordinance to prohibit smoking in the indoor areas of all licensed restaurants, regardless of their size and seating capacity. The smoking ban will also apply to bars and karaokes, many of which operate with a restaurant license in practice. Implementation would be preceded by a grace period of twelve months. The management of the premises would be primarily responsible for enforcing the ban.

No Scientific Consensus on Passive Smoking

- 3.2 Many regulators continue to view public smoking bans as a panacea for the perceived threat of Environmental Tobacco Smoke. Much of the debate on ETS has been politicised and the debate has so far been inconclusive. As the editor of a leading medical journal said: "... with research papers we first ask if we are interested in the question. We must be interested in whether passive smoking kills, and the question has not been definitively answered. It's a hard question, and our methods are inadequate ... Indeed, this debate was much more remarkable for its passion than its precision." Richard Smith, Editor, British Medical Journal, August 30, 2004 (<http://bmj.bmjournals.com/cgi/content/full/327/7413/505-a>).

- 3.3 In fact, the largest study on ETS and lung cancer, undertaken by the WHO, (*Biennial Report 1996-1997, International Agency for Research on Cancer (IARC), World Health Organisation*) found no meaningful increase in lung cancer risk for growing up, living, working, travelling or socialising with a smoker. The most substantial sources of data on ETS and heart disease are the databases of the American Cancer Society's Cancer Prevention Study and the database of the US National Mortality Followback Survey. Analyses of these have reported no overall association between ETS and heart disease.

OUR COMMENTS

- 3.4 We oppose the proposed expansion of statutory no smoking areas with three main reasons as follows:

- 3.5 First, imposing a blanket smoking ban in catering and entertainment premises is not a global trend. Most of the overseas countries that have imposed smoking restrictions in catering and entertainment premises allow certain degree of flexibilities after considering the economic impact on businesses and other local factors. Outstanding examples include :
- i In UK, Portugal and Singapore, smoking is allowed in night entertainment outlets, including clubs, bars and pubs.
 - ii In Germany, an agreement between German Hotel and Restaurant Association and the Federal Ministry of Health was reached in March 2005 to introduce smoking restrictions in hospitality venues over a 3-year period. At the end of 1 Mar 2008, 90% of all venues offering food have to allocate a minimum of 50% of the total area as smoke-free. However, smoking ban does not apply to small establishments with less than 40 seats.
 - iii In Netherlands, the HORECA Association agreed a “Step Plan” with the government which allows for progressive restrictions over 5 years. At the end of 2008, total smoking ban will be implemented in restaurants and hotel rooms only. The rest of the venues, such as cafe, fast food stores and disco, will continue to enjoy certain level of flexibility.
- 3.6 Second, the existing Ordinance provides adequate restrictions on smoking by providing that in restaurants with seating accommodation for more than 200 persons at least one third of the area must be designated as a non-smoking area. We believe that the Government should focus on enforcing the existing legislation and allow market forces to dictate what measures restaurants, bars and karaokes should adopt to restrict smoking in their premises.
- 3.7 Third, based on overseas experiences, a blanket ban on smoking in restaurants, bars and karaokes is likely to have a severe economic impact upon the hospitality and tourism industries.

Adverse Economic Impact on the Hospitality Sector

3.8 In Hong Kong there are currently approximately 184,000 people employed in restaurants, representing 5.3% of the Hong Kong workforce (*Quarterly Survey of Employment & Vacancies, Census and Statistics Department*).

3.9 The Hong Kong Catering Industry Association / KPMG report of September 2001 (*Hong Kong Catering Industry Association/KPMG Report "Proposed smoking ban: impacts on Hong Kong hospitality businesses", September 2001*) concluded that receipts would fall by around 10.6% (HK\$7.9 billion per year) in Hong Kong restaurants, bars (including karaokes and nightclubs) cafés and hotel food and beverage outlets if smoking was banned completely in them.

There is a significant number of studies illustrating the negative economic impact of public smoking bans on the hospitality sector, and which highlight the reliance the hospitality industry places upon smoker expenditure. Smokers consistently outspend non-smokers in the vast majority of hospitality venues, with bars, lounges, pubs and nightclubs the chief beneficiaries. Studies (*Vancouver Smoking Ban study commissioned by the Lower Mainland Hospitality Industry Group*) suggest that a smoker is worth 1.74 non-smokers in terms of revenue to the hospitality sector.

3.10 The imposition of a public smoking ban causes a massive decline in smoker spending. Regulators and public health authorities claim that any loss in revenue from smokers will be matched by increased revenue from non-smokers. However, studies demonstrate that this is simply not the case. As a result, we continue to see large revenue and job losses in each country where a public smoking ban is introduced. It is very likely that restaurants, bars and karaokes in Hong Kong will also suffer economically if a blanket smoking ban is imposed. Smokers are the intended target of smoking regulation; however, the true losers are the owners and employees of hospitality venues.

3.11 Besides, Hong Kong's entertainment business is currently facing severe price competition from such neighboring Mainland cities as Shenzhen. The introduction of a total smoking ban in local entertainment business will further encourage Hong Kong people to cross the border where they could still enjoy smoking, thus making local entertainment business' survival even more difficult.

- 3.12 In recent years, several countries/states with comparable standards of living to Hong Kong have introduced blanket bans on smoking in restaurants and bars, e.g. New York and California in the US, British Columbia in Canada, and Ireland. In each of these cited examples there is evidence of a significant adverse economic impact on business in the restaurant and bar trade following the introduction of the smoking ban. We have summarized in **Appendix 1** the economic impact on restaurants and bars in each example country/state.
- 3.13 In addition, individual hospitality outlet proprietors have made substantial investment in installing ventilation and filtration facilities in order to cater customers need (including smokers). They will suffer from additional losses should the Government introduce the total smoking ban without any compensation.
- 3.14 It is therefore essential that the Government consults extensively with the hospitality industry and other relevant trade groups about the probable consequences before deciding whether to extend statutory no smoking areas. The last widespread consultation exercise which the Government undertook was more than three years ago in 2001, since when the hospitality industry has had to contend with a dramatic fall in business caused by SARS. We strongly suggest that the Government undertakes another economic impact assessment in relation to the proposed expansion of statutory no smoking areas before any decision is made.

A Heavy Blow on the Recovering Tourism Industry

- 3.15 Tourism is critical to the Hong Kong economy. According to the Chief Executive, it is one of Hong Kong's four core industries (*2004 Policy Address by the Chief Executive*). Currently, approximately 56% of Hong Kong's visiting tourists come from the Mainland where there is a significantly higher proportion of smokers than in Hong Kong. We believe that the proposed expansion of statutory no smoking areas in restaurants, bars and karaokes is likely to discourage people from the Mainland from visiting Hong Kong. As a result, it will create a serious economic impact at a time when the Hong Kong tourist industry is still going through a period of recovery following SARS.

3.16 The economic impact assessment which we recommend the Government undertakes should take particular account of the effect on tourism of the expansion of statutory no smoking areas. Recent reports indicate that the Singapore Government was considering extending the smoking ban to include bars and some outdoor venues. However, this does not appear to have been pursued. This could be because of the possible adverse economic impact on the businesses and the lack of support for such a ban by bar operators and the public. The Singapore Parliament recently announced its plan to undertake a survey to ascertain the economic impact of such a change before any final decision is to be made to extend the smoking ban.

3.17 In the Middle East, the Dubai Municipality announced on 15 June 2004 the implementation of a smoking ban in shopping malls beginning on 15 October 2004, only to lift the ban on 30 October. This was partially in response to a drop in trading of nearly 60% privately reported by the coffee shops and restaurants in malls. It was believed that Dubai's retail economy would have started to feel the pinch given further implementation of the ban, which would have an adverse effect on Dubai's stated objective of being the tourist destination for people of different cultures and attitudes in the region (*Up in smoke, Anil Bhoyrul, Arabian Business Weekly Update, 1 November 2004*).

Patterns of Expenditure Differ between Smokers and Non-smokers

3.18 The rates of expenditure for smokers and non-smokers are different. The Hong Kong Catering Industry Association / KPMG report of September 2001 found that the average weekly spend of non-smoking customers was significantly less than that of smoking customers, with non-smokers spending 39% less per week in the hospitality sector.

3.19 Regulators and public health authorities in other jurisdictions have sought to justify the imposition of bans by publishing studies which assert that smoking bans have no or even a positive effect on the hospitality industry. However, these studies fail to report the true impact of smoking bans. Many studies conveniently base their conclusions on consolidated statistics of hospitality industry performance, overlooking the real losses suffered by owners of businesses heavily reliant on smoker expenditure, e.g. bars, pubs, and other hospitality outlets. Whilst smokers are the intended target of smoking regulation; the true losers are the owners and employees of hospitality venues. We urge

the Government to undertake extensive consultation within the hospitality industry about the likely impact on it of an expansion of statutory no smoking areas.

Less Public Support for Smoking Ban in Bars and Karaoke

- 3.20 It is hardly surprising that surveys to gauge public opinion of smoking bans in restaurants and other indoor premises show majority support, given that only 14.4% of people in Hong Kong smoke.
- 3.21 However, it is noteworthy that public support for a smoking ban in bars and karaoke is significantly lower than for a smoking ban in restaurants. Although bars are frequented by a higher proportion of smokers (32.5%) than in restaurants (30.9%) (*Hong Kong Catering Industry Association/KPMG Report, September 2001*), in January 2002 only 38% of respondents supported a ban in bars (28% did not) and only 50% supported a ban in karaoke (20% did not) (*Proposed Legislative Amendments to Smoking (Public Health) Ordinance (Cap.371)*)
- 3.22 Under the existing legislation people may choose either a smoking or a non-smoking section in restaurants. In a free society like Hong Kong, it is important and implicit that people are given choice. This applies to both individual customers and restaurant management alike, so that whilst customers can choose to dine at a restaurant where there is no non-smoking area, it is also up to the restaurant management to choose the type of establishment they wish to maintain. An emerging trend in the local market since 2001 is that more restaurants and bars have voluntarily banned smoking completely to gain a competitive advantage by meeting consumer demand. We believe that in Hong Kong, which is synonymous with economic and personal freedom, bars and restaurants should be allowed to regulate themselves in this manner, without the need for government interference.
- 3.23 To complement such initiatives as this, BAT has produced for distribution a pocket guide “*Dining and Entertaining in Hong Kong – For Smokers and Non-smokers*” which is designed to help both smokers and non-smokers find suitable places to dine and entertain which can suit individual preferences and needs, by identifying licensed premises which offer a smoke free environment, designated no smoking sections, or permit smoking throughout their premises. A copy of an up-to-date version of this pocket guide is attached as **Annexure B**.

Enforceability of the Law in Doubt

- 3.24 It is doubtful whether a complete ban on smoking in restaurants, bars and karaokes is viable and enforceable. The Government is proposing that managers of the premises should be primarily responsible for policing and enforcing the ban, and suggests that if premises managers experience practical difficulties in enforcing the no smoking requirement, they can record the details of an alleged offence (such as names and identity card/passport numbers of smokers) and refer the case to the Tobacco Control Office for follow-up. Anecdotal evidence, however, suggests that civilian managers would be reluctant to enforce any contravention of smoking related legislation, which could obviously result in loss of trade, or worse, a confrontation with a customer, who could in any event refuse to give his name and identity card number to the manager. Therefore, should the Government choose to introduce a total smoking ban in restaurants, bars and karaokes, it must lay down clear and effective means to enforce such regulations, and should consult the hospitality industry to ensure that the proposed means of enforcement is workable.
- 3.25 The proposed amendments also raise the issue of the definition of “indoor”. There are many restaurants, cafés and bars in Hong Kong which are open-fronted or have seating areas on the pavement. It would be extremely difficult to enforce a smoking ban in such areas. This is because premises would be required to have marked boundaries, inside of which smoking would not be permitted but outside of which it was. This could result in the streets being a jigsaw of smoking and non-smoking areas. It is hard to see the logic of banning smoking outdoors, and if this was a consequence of the proposed amendments, that would we submit, be excessive regulation.
- 3.26 We believe that improving enforcement of the existing restrictions in restaurants, in tandem with increased education of the public about compliance with the existing laws, would be more effective, and more economical, in realising the effective protection of the public against environmental tobacco smoke than introducing further changes. There is little to be gained in further regulating the catering industry if the current regulations are not and cannot be adequately enforced.

Grace Period for Bars and Karaoke

3.27 At present there are no restrictions on smoking in bars and karaoke (which are in any event generally adult venues which people expect smokers to frequent and where smoking is accepted) and it would therefore be unreasonable to implement a ban in bars and karaoke at the same time as in restaurants, which are already subject to smoking restrictions, and which will thus be able to better adapt to an outright ban. If the Government decides to ban smoking in restaurants, bars and karaoke, we submit that it should introduce the ban in phases in order to mitigate its impact. In jurisdictions where smoking has been banned in bars, there has been a significant decline in trade volumes.

Better Alternatives

3.28 There are several alternatives to banning smoking in restaurants, bars and karaoke, which could achieve the Government's objectives of protecting the public from passive smoking and of closing loopholes in and bringing about more effective enforcement of the existing Ordinance.

3.29 Restricted areas for smoking in combination with proper ventilation can adequately address any perceived problem related to secondhand smoke whilst maintaining an enjoyable and dynamic entertainment environment. In Italy, segregated smoking areas with adequate ventilation and air exchange equipment are allowed in restaurants, cafes and workplaces. In Malaysia, the Government has recently announced a balanced approach to smoking ban in eateries and entertainment outlets by introducing a stringent Indoor Air Quality Standard.

3.30 The following are examples of alternatives which could be considered:

- The Government could work in partnership with the hospitality industry, based on best practices in other parts of the world, to focus on and encourage better air quality and practical working environments. Additional ventilation and filtration equipment could be used as appropriate to improve general indoor air quality, recognising also the contribution from cooking, office equipment, household cleaners, etc.

- TAHK is willing to work with the catering and entertainment sectors to introduce sophisticated ventilation systems in order to upkeep a high indoor air quality for consumers and their staff.
- The Government could be involved in campaigns and other measures to ensure the effective enforcement of existing legislation. Rather than amending the existing legislation, the Government should focus on the better enforcement of the current restrictions and on educating the public more about the need for compliance with these restrictions.
- The Government could conduct additional public health campaigns to better educate the general population. Given the annual HK\$2.2 billion dollars of government revenue collected from tobacco excise, we would support the Government to increase its per capita expenditure on tobacco control of USD11.50 (being the midpoint in the range of \$6 to \$17 per capita that is recommended for medium-sized states (population 3 to 7 million) as suggested by the Centres for Disease Control and Prevention in the U.S. We believe additional public health education is the best means of reducing the health impact of tobacco use while allowing the adult use of a legal product.
- Restaurants and bars should be allowed to establish designated and appropriately designed ‘smoking rooms’ for their customers if there is consumer demand for such an approach.

3.31 These alternatives would not have the same adverse economic impact as an outright ban and, in the case of the ventilation/designation alternatives, would enable owners of restaurants, bars and karaokes to take account (as some are already doing) of consumer demand in deciding whether they want to cater just to non-smokers or to both non-smokers and smokers.

3.32 It is noteworthy that the Correctional Services Department does not impose a complete smoking ban in Hong Kong’s prisons. Its approach to protect non-smokers from passive smoking is to restrict smoking to designated smoking areas. Also, although Hong Kong’s new airport was intended to be smoke-free, following numerous complaints from passengers who had nowhere to smoke, designated smoking rooms have been successfully introduced throughout the passenger terminal.

- 3.33 We believe that the Government should consult thoroughly with restaurant, bar and karaoke owners to identify viable alternatives.

INDOOR WORKPLACES SMOKING BAN

- 3.34 It is proposed that smoking should be prohibited in all indoor workplaces and public places. The management at indoor workplaces would be the primary enforcement agency. The Government proposes to define indoor workplaces and public places as follows:

“Workplace means a place where persons are employed or engaged to work, whether for remuneration or otherwise.”

“Public place means any place to which the public are entitled or permitted to have access, whether on payment or otherwise.”

“A place covered by a ceiling or roof is not indoor unless the place is also completely or substantially enclosed except for doors and other closable openings.”

OUR COMMENTS

- 3.35 This proposal forces the management of individual companies to control the behaviour of its staff and ignores the characteristics of the workplace in Hong Kong. Consequently, it will be difficult to enforce and will cause unnecessary aggravation.
- 3.36 The proposal does not take into account the fact that many of the indoor workplaces in Hong Kong cannot be likened to those in countries where similar proposals have been made. It is also notable that many countries, such as the UK, Germany and Japan, do not have legislation banning smoking in the workplace. Even the US does not have federal legislation on this matter. In Hong Kong, there is a vast number of small to medium sized enterprises. Many of such enterprises conduct business on a very small scale, employing only a few people and a number of which will no doubt be owned by smoking employers, employing workers who smoke. Hong Kong’s “indoor workplaces” cannot therefore be neatly categorized. More importantly, the effective enforcement of a total ban would be impossible.
- 3.37 If there is a ban on smoking in the workplace, smokers may continue to smoke in toilets, or other areas out of sight, out of windows and outside the place of work. This in turn may result in an increase in ‘visibility’ of smoking, litter levels and ‘clandestine’ smoking

that could lead to a fire hazard, particularly for small businesses. It could also result in absenteeism, for short ‘cigarette breaks’ and potentially create a smoking sub-culture.

3.38 If the Government intends to implement a ban on smoking in the workplace, we submit that there should be exemptions for employers who provide within the workplace separate smoking rooms with proper or separate ventilation, or in areas where there is no air-conditioning. Many companies in Hong Kong already provide separate smoking areas, often at not insignificant expense, so that their employees, clients, customers and visitors are able to smoke, but at the same time respecting the rights of non-smokers.

3.39 Notwithstanding the wide definitions of “workplace” and “public place” in the proposed amendments, premises such as offices/factories for product research or development purposes, offices of tobacco companies where testing or tasting of products is customary, cigar lounges and cigar shops, etc., should be exempt from the ban.

Smoking Ban at Cigar Shops

3.40 The proposed amendments have not take into consideration the serious impact on the operation and business viability of cigar shops where the manner in which cigar products are bought and consumed are very different than other tobacco products. A cigar shop may carry as many as 300 cigar products of different prices and taste. Because of cigar products’ high price, stick sales is a common practice so that smokers can “taste” the product before committing to purchase a larger quantity. As it typically takes an hour to finish a cigar, separately ventilated lounges are usually set up for cigar tasting purpose.

3.41 A blanket smoking ban without considering this unique operation model would mean pushing the cigar shops out of business. We believe this is not the intention of the government to create an operationally infeasible environment for the cigar business. We would therefore recommend Hong Kong government grants exemptions to the cigar business, like New York city, California and Austria.

4. ADVERTISEMENT AND PROMOTION OF TOBACCO PRODUCTS

DISPLAY OF TOBACCO ADVERTISEMENT

- 4.1 The existing Ordinance prohibits any display of tobacco advertisement except at licensed hawker stalls and retail outlets employing not more than two employees. The Government maintains that this exemption has become a source of abuse, claiming that (i) numerous tobacco advertisements are being displayed at small retail stalls selling tobacco products, and (ii) many large light-boxes depicting tobacco advertisements are found upon the premises of small shops throughout the territory. In order to arrest what it describes as these undesirable phenomena, the Government proposes amending the existing Ordinance to revoke the exemptions currently applicable to licensed hawker stalls and retail outlets with two employees or less. The Government should enforce the existing legislation where it feels there are still abuses.

OUR COMMENTS

- 4.2 We oppose the revocation of the exemption for licensed hawker stalls and small retail outlets. Unlike other legitimate businesses that are entitled to advertise their products, the tobacco industry in Hong Kong is currently under stringent restrictions on advertising. To remove a significant part of the small remaining area is disproportionate to the aims of the Government and will deprive, almost fully, the ability to advertise a product. This is an unacceptable restriction on fair trade in a legal product.

Effective Self-regulatory Initiatives

- 4.3 In fact, abuse of the exemption decreased significantly following the tobacco companies' amendment of the then *Tobacco Institute of Hong Kong Code of Conduct* (**Annexure A**) in September 2001 to include provisions whereby the companies committed not to:

“5.6 *Install any tobacco advertisements and advertisements for the trademark of any tobacco products (“POSM”) which measure in aggregate larger than one square metre upon the premises of retail dealers or upon the stalls or pitches of hawkers (“Display Space”).*”

Restrictions such as the above can be written into the law to ensure that there is compliance across the board.

4.4 The tobacco companies further agreed to, and did, remove all tobacco advertisements that exceeded this size limit by 2002. We will continue to uphold our commitment to such self-regulatory measures, despite the dissolution of the Tobacco Institute of Hong Kong. In this regard, different tobacco companies have implemented/adopted similar global and/or local regulations: British American Tobacco, Japan Tobacco, and several other members of the international tobacco industry launched the *International Tobacco Products Marketing Standards* in September 2001 (see **Annexure C**)

Severe Hardship for Hawkers and Small Retailers

4.5 The proposed amendment would have a significant impact upon the livelihoods of hawkers and small retailers. In 2001 it was estimated that there were some 600 licensed hawkers and 9,400 small retailers displaying tobacco advertising (*Environmental Resources Management “Regulatory Impact Assessment-Proposed Amendments to the Existing Smoking Legislation”, December 2001*), and that if the current exemption allowing them to display tobacco advertisements was revoked:

- Hawkers and retailers would lose an average HK\$1,000 per month advertising and sales revenue (mostly the former). It would be difficult for the hawkers and retailers to recover all of the lost advertising revenue from other sources as tobacco firms pay a premium to display their advertising.
- The average cost of removing current advertising from hawkers would be HK\$1,000, and from small retailers HK\$5,000.

4.6 The exemption for licensed hawker stalls and small retail outlets was granted in 1996 specifically to prevent them suffering economic hardship. The Asian financial crisis occurred the following year, and although the economy has since recovered to some degree, hawkers and small retailers are still worse off than in 1996 and still rely very heavily on tobacco advertising revenue. This is largely because of (i) increased competition from chain stores and supermarkets and (ii) the increase in the illicit trade in cigarettes which followed the Government’s increasing of tobacco excise duty.

4.7 We strongly suggest that the Government consults with the Hong Kong Newspaper Vendors’ Alliance and the Newspaper Vendors’ Association about the likely economic impact of the proposed revocation of the exemption for licensed hawker stalls and small retail outlets.

Unnecessary Competition with the Framework Convention on Tobacco Control (“FCTC”)

4.8 The Government has indicated (*Government Press Release, 20 October 2004*) that it intends to adopt the FCTC. Article 13 of the FCTC imposes very severe marketing restrictions. It provides that each party, depending on its constitution or constitutional principles, shall **within five years** after the FCTC enters into force for that party, undertake a comprehensive ban of:

- All tobacco advertising, promotion and sponsorship:
- Cross-border advertising, promotion and sponsorship originating from its territory; and
- Tobacco advertising, promotion and sponsorship on radio, television, print media and the internet.

4.9 We do not consider there is any need to tighten further the marketing restrictions in Hong Kong way ahead of the FCTC’s proposed schedule. Hong Kong has one of the lowest smoking incidence in the Asia Pacific area. It is not proven that banning what are already highly restricted advertising opportunities will have an impact on reducing smoking incidence.

PRICE BOARD AND PRICE MARKER

4.10 The Government proposes modification to the existing legislation, which specifies that premises selling tobacco products may display price boards (for more than one tobacco brand) no larger than 2,000cm², and price markers (for a single tobacco brand) of any size. The Government proposes to prescribe the size of the price board and price marker to, say, not larger than 1,500cm² and 50cm² respectively.

OUR COMMENTS

- 4.11 We support the Government's proposal. We and other tobacco companies have already changed the sizes of price boards and price markers to 1,500 cm² and 50 cm², as provided for in the then revised *Tobacco Institute of Hong Kong Code of Conduct* of September 2001.

SALE OF TOBACCO PRODUCTS IN ASSOCIATION WITH OTHER PRODUCTS

- 4.12 The existing legislation prohibits the sale of tobacco products in association with any gift, token, stamp or raffle ticket which may be exchanged for any gift. The Government says that complaints have been received about bundled selling of tobacco products and non-tobacco products (e.g. watches or lighters), with the non-tobacco merchandise being priced much lower than their market value to induce purchase of the accompanying tobacco products.
- 4.13 The Government proposes to amend the existing Ordinance to prohibit the sale of a tobacco product in association with any merchandise whether it is charged or not.

OUR COMMENTS

- 4.14 We oppose the proposed amendment.
- 4.15 The sale of other products in association with tobacco products is strictly a commercial initiative for tobacco companies. It is a means of communicating with existing adult smokers to attract them to our brands so that they select our brands in preference to those of our competitors, and to retain the loyalty of our customers so they do not switch to competitor brands.
- 4.16 We are not targeting youths with such promotions. The *Tobacco Association of Hong Kong Code of Conduct*, adopted from the Tobacco Institute of Hong Kong, and the *International Tobacco Products Marketing Standards* both expressly prohibit marketing activities aimed at youth.

Clause 4.1 of the *Tobacco Association of Hong Kong Code of Conduct* provides:

“4.1 Members of the Institute will not direct their marketing activities at those under the age of 18 and are committed to limiting communications about tobacco products to adult smokers only.”

4.17 Similarly, the *International Tobacco Products Marketing Standards* provides in clauses 12.1 and 25:

“12.1 Promotional offers and programs for specific brands which appear on the package, at the point of retail sale, by mail or through other communications shall be directed only to adults and, unless prohibited by law, only to smokers.”

“25. Youth access: The Participants shall make sustained efforts, in cooperation with governments and other regulatory agencies, customers and others to prevent youth having access to tobacco products. They shall also seek ways to in which to reinforce and give effect to measures that will prevent youth having access to tobacco products.”

4.18 In accordance with these standards, we only sell smoking related products such as lighters and ash trays in association with tobacco products, and such smoking products are sold at or above cost, to avoid them appealing to non-smokers or youths.

4.19 We are thus committed to ensuring that tobacco marketing is not aimed at those who are under-aged, and we will continue to adhere to self-regulatory measures to achieve this, despite the dissolution of the Tobacco Institute of Hong Kong. At the same time, we sell legitimate products and we maintain that that our freedom to communicate responsibly with *adult* smokers about our products is a fundamental right.

4.20 We would add also that we understand that the wording of the 2001 proposed amendment (which is effectively the same as the current proposed amendment) has caused much confusion among retailers. As presented, the proposed amendment would even prevent the sale of, for example, a soft drink or newspaper with a packet of cigarettes. While we assume that this is not the intention behind the proposal, we believe that further consideration needs to be given to the exact wording of the proposal so as not to frustrate normal retail activity.

TOBACCO SPONSORSHIP

4.21 Under the present legislation, the display of a tobacco brand name in any sponsored event is deemed tobacco advertising and is prohibited. However, the display of the tobacco brand name and the sponsorship will be allowed if the tobacco brand name is displayed in conjunction with a non-tobacco product, and if no words associated with “smoking”, “cigarette” or other tobacco products are mentioned. The Government maintains that in

some events jointly sponsored by tobacco and non-tobacco products, the promotional materials have been designed such that the brand name of the tobacco product was much more prominent than the non-tobacco product.

- 4.22 The Government proposes to amend the existing Ordinance to prohibit the appearance of the brand name of a tobacco product, unless the name can be conspicuously and exclusively identified with a non-tobacco product.

OUR COMMENTS

- 4.23 We accept the proposal being put forward in regard to the prohibition of a *brand name* of any tobacco product being used in the promotion of a sponsored event. However, the current wording of the proposal would prevent corporate sponsorship by companies such as British American Tobacco, Nanyang Brothers Tobacco, Japan Tobacco, Hong Kong Hongta International Tobacco, due to the appearance of the word “tobacco” in the company name. This is not only restrictive, but also discriminatory.

- 4.24 The use of the word “tobacco” in a corporate name is not in itself an advertisement of a product and such a ban is disproportionate. The tobacco companies’ ability to assist in community causes should not be fettered by unnecessarily harsh legislation. In addition, the prevention of corporate sponsorship of events by tobacco companies deprives them of their ability to contribute to the common good of Hong Kong and deprives the local community of valuable funding of the arts and other social and cultural events. This proposal suggests an over-paternalistic approach. Taken to its logical conclusion, the use of the word “tobacco” would be banned from everyday use, e.g. tobacco farmer. The irony is profound: whilst the Government is content to derive substantial tax revenue from the sale of tobacco, it seeks to prevent any recognition that the industry contributes substantially, directly and indirectly, to Hong Kong’s economy and community.

- 4.25 We consider it important for us to remain an active participant in local community activities and not to have to hide such activities just because of who we are and because we have the word “tobacco” as part of our company names. In particular, some of us have been involved in community activities in Hong Kong for the last century, and have made significant contributions to Hong Kong’s arts and cultural development e.g., since 1903 when BAT first set up its operation here.

Maintain Freedom of Corporate Communications

- 4.26 We also seek clarification of the effect of sections 2 and 14 of the existing Ordinance in relation to corporate communications which are not intended to be advertisements.
- 4.27 Under these provisions, the definition “tobacco advertisement” includes any announcement made to the public in any manner which illustrates or mentions smoking or cigarettes or cigarette tobacco. Further, where any object, other than a tobacco product, which is displayed to the public, whether for sale or otherwise, in the course of conducting any business or providing any service, includes the name or trade name of any person associated with the marketing of any tobacco product, or any trademark or brand name of a tobacco product, then the object can be deemed to be a tobacco advertisement. This means that a corporate communication, such as BAT’s pocket guide, *“Dining and Entertaining in Hong Kong – For Smokers and Non-smokers”*, which is designed solely to help people to find suitable places to eat and drink which cater to smokers *or non-smokers* or both, and information on resources for quitting smoking in Hong Kong and other information on health risk of smoking, because it contains the word “smoking” and carries BAT’s name and logo on the back page, could be deemed to be a tobacco advertisement. Similarly, it is arguable that tobacco companies’ Hong Kong websites also constitute tobacco advertisements, as might a tobacco shop’s or company’s listing in the Yellow Pages, or an interview with a representative from a tobacco company in a newspaper or business journal..
- 4.28 We do not believe that this is the intention of the existing Ordinance. However, in the absence of clarification, these provisions restrict our ability to communicate corporate information to the public or our consumers, thus unduly restricting our corporate freedom of speech, which is not justified either in terms of the policy behind the existing Ordinance or in terms of the wider implication of free speech.
- 4.29 We therefore urge the Government to clarify or make explicit exemptions to the definition of “tobacco advertisement” so that any communication which is clearly intended only to convey information of a corporate or advisory nature, and which is plainly not an advertisement, should not be deemed to be a tobacco advertisement.

5. PACKAGING AND LABELING OF TOBACCO PRODUCTS

HEALTH WARNINGS

- 5.1 Under the existing Ordinance, health warnings in prescribed size and wording, and the quantitative amounts of tar and nicotine yields are required to be borne on the package of the cigarette products. In order to enhance the visual impact and deterrent effect of health warnings, the Government plans to introduce an explicit provision enabling the health authority to prescribe health messages with pictorial and graphic contents. To conform to international practices, the Government is also recommending increasing the prescribed area of the health messages to at least 50% of the largest surface areas of the packet/container of any tobacco product.

OUR COMMENTS

- 5.2 Whilst TAHK recognises the need for public health warnings on cigarette packets, we oppose the proposed amendment. Health warnings should provide information to the smoker and should not be designed solely to vilify, stigmatise and shock adult smokers who have already made the decision to smoke.
- 5.3 We consider that the graphic health warning proposal raises a number of serious concerns and issues on the social, economic and legal fronts. It is submitted the proposed changes are both unnecessary and disproportionate to the Government's health objectives.
- 5.4 Whilst the FCTC states that health warnings on packets "may be in the form of or include pictures or pictograms", this is not a mandatory requirement. Currently, of the 191 signatory states, only five of them have implemented the graphic health warnings. They are Canada, Brazil, Thailand, Singapore and Jordan.

Rational behind the Proposed Graphic Health Warnings

- 5.5 The Government's stated policy is to discourage smoking, contain the proliferation of tobacco use, and minimise public exposure to environmental tobacco smoke, or passive smoking. Its policy is not to outlaw tobacco use or to coerce smokers to give up smoking other than by free will.

5.6 Health warnings in general are seen by regulatory bodies to serve two main functions, namely,

- (c) to educate and to produce a high awareness amongst existing and potential tobacco users of the serious health problems associated with tobacco use;
- (d) through (a) above, to produce behavioural changes, such as,
 - (i) for smokers to smoke less,
 - (ii) for smokers to be more motivated to cease smoking, and
 - (iii) for non-smokers to be less inclined to start smoking.

5.7 The Government's proposed amendment makes specific reference to the adoption of graphic health warnings in Canada, yet smoking rates and patterns differ greatly between Canada and Hong Kong. For example, the smoking rates in Canada (2000/2001) were 23.5% of men and 19.4% of women (*"Smoking Statistics 2004" British Heart Foundation Health Promotion Research Group*) as compared to 14.4 per cent in Hong Kong. Indeed, the percentage of women smokers in Hong Kong is less than 3 per cent, compared to 22 per cent of Hong Kong men. Similar disparity is not seen in the West where the stigma attached to women smoking is largely absent. It would therefore be imprudent to reason, and wrong to conclude, that policies adopted in Canada are policies that should be adopted in Hong Kong.

5.8 Underlying the Government's proposal to introduce graphic health warnings is the assumption that the current Textual Warnings with their stipulated wording and lesser size are inadequate, and that graphic health warnings will be more effective in achieving the above objective. Based on experience and official studies carried out by the government in Canada which has adopted graphic health warnings since 2001 (see below), it is submitted that this is flawed.

The Canadian Experience

5.9 There is no conclusive evidence that pictorial health warnings have had any effect in reducing consumption or changing smoking behaviour. Pictorial health warnings were introduced in Canada in January 2001, but research results there on the effectiveness of graphic health warnings indicated that they fail to establish a relationship between the use of graphic health warnings and **actual changes** in smoker behaviour.

- 5.10 The reaction to pictorial health warnings, particularly of the nature that have been introduced in Canada, is highly subjective. In this respect it is important to note that there is a distinction between conveying information and attracting attention or engineering an emotive reaction. Although pictorial warnings on packets might initially attract notice, this impact is temporary because it is derived from novelty. Research demonstrates that the novelty soon wears off (*Witness statement by Roderick Power, Canadian C71 Proceedings*). Further, attracting notice is not the same as communicating information. If adult consumers register a change in the presentational content of warnings, this does not equate to effective communication that will prompt changes in their behaviour, for example, by ensuring they cut down on smoking or quit smoking altogether.
- 5.11 Health Canada commissioned baseline and follow-up surveys to determine the effects of the introduction of pictorial warnings. These so called ‘Wave studies’ asked some questions about smoking incidence, quit attempts, awareness of smoking and health problems as well as questions about quitting intents. The data from some of these questions allows a direct pre and post pictorial warning comparison of actual smoking behaviour parameters. Although Health Canada published the Wave 1 baseline results on their website, they have never publicly released the results from the five follow up surveys (April 2001 to December 2003). However, copies of the results have been obtained under the Canadian Freedom of Information Act.
- 5.12 The results indicate that the introduction of pictorial warnings in Canada in January 2001 has **not** been associated with a reduction in cigarette consumption per smoker, has **not** resulted in more smokers making quit attempts, and has **not** been associated with an increase in the number of smokers believing that smoking is a serious health problem. (*Environics (2001a). Baseline Surveys: The health effects of tobacco and health warning messages on cigarette package (final report). Environics (2001b). Evaluation of New Warnings on Cigarette Packages. Prepared for Canadian Cancer Society. http://www.cancer.ca/vgn/images/portal/cit_776/35/20/41720738niw_labelstudy.pdf.)*
- 5.13 Murray Kaiserman (from Health Canada) made a presentation at the 2003 WHO meeting in Helsinki on the outcome of the Environics follow-up surveys, and although it claimed the new health warnings continued to be noticed and that smokers continued to learn about smoking and health, it avoided mentioning the lack of a graphic health warning effect on the key indices of smoking behaviour. (*Kaiserman M, Malomaski Illing E, et al. (2003)*

The evaluation of Canada's health warning messages: 18 month follow-up. Presented at the 12th World Conference on Tobacco or Health, Helsinki.)

- 5.14 The conclusions drawn from an examination of the actual behavioural data from the Environics 'Wave studies' are very similar to those produced by Gospodinov and Irvine (2003) 69 following their analysis of data from the Canadian Tobacco Use Monitor Surveys (CTUMS). These authors compared data from the CTUM surveys before and six months after the introduction of graphic health warnings and they concluded that the introduction of GHWs had not significantly decreased smoking prevalence or decreased cigarette consumption. (*Gospodinov N and Irvine I (2003) Global Health Warnings on Tobacco Packaging: Evidence from the Canadian experiment. Unpublished study. Currently under revision for Topics in Economic Analysis and Policy, Berkeley Electronic Press.*)
- 5.15 Further, there is evidence that soon after pictorial warnings were introduced in Canada, some smokers purchased cigarette sleeves or jackets to cover the entire packet and hence obscure the whole of the health warning (*The Canadian Press, Group Sells Cigarette Sleeves Carrying a Positive Message, Cambridge Reporter, 10 January 2001*). Such consumer behaviour (which we understand also occurs in Singapore), serves not only to obscure any graphic health warning, but *all* health warnings, including any text messages or other product information (such as tar or nicotine delivery). This is worse than having no health warning at all.
- 5.16 In August 2004 the Canadian government issued its latest consultation paper on pictorial health warnings called "Building on Success, A Proposal for New Health-related Information on Tobacco Product Labels". Nowhere in the consultation document does it mention that pictorial health warnings in Canada have resulted in a 3% decline in tobacco consumption as claimed by anti smoking organisations. The document states that "*research also indicates that the health warnings are not equally effective at reaching all current and potential smokers.*" It goes on to state "*Almost all Canadians have seen the current health warnings even though fewer than one-half of smokers say they read them every day. Eighteen per cent of adult smokers say they never look at or read the warnings*". The Consultation period ended on November 5, 2004.
- 5.17 We have attached separately comments on how some research studies and surveys relating to cigarette pack health warnings have been used in recent tobacco regulation proposals, as well as a paper published by the academics in Canada on "Global Health

Warnings on Tobacco Packaging: Evidence from the Canadian Experiment.” (See Annexure D1 and D2)

Are Graphic Health Warnings Necessary and Proportionate?

5.18 As shall become apparent that the Government carries the burden of showing that the proposed legislation for graphic health warnings is necessary, and is in terms no more than is necessary. This involves passing at least the following hurdles:-

- (e) demonstrating that the existing requirement for Textual Warnings on tobacco product packaging is inadequate for the purpose of educating the public and maintaining a high degree of awareness of the serious risks involved in use of tobacco; and
- (f) that such inadequacy cannot be remedied by an enhancement or updating of the texts of the warnings in order to impart better and more information; and
- (g) graphic health warnings in the forms proposed will be more effective than Textual Warnings in both enhancing understanding of the message content and bringing about the desired behavioural changes amongst smokers and non-smokers; and
- (h) there are no other means of communicating the message to the public.

Pictorial Health Warnings Could Become Anti-competitive Policy

5.19 Graphic health warnings will create severe financial burden for the tobacco industry. Tobacco companies will be required to incur significant costs to comply with the requirements of the proposed warnings. These include substantial redesign costs, the expense of producing new printing cylinders, losses resulting from production stoppages, as well as stock write-offs for packages already printed with the Textual Warnings. The proposed graphic health warnings will also have a differential effect on smaller tobacco companies, who unlike the large manufacturers, will lack the resources to effect the switch-over efficiently, or at all. Smaller manufacturers or brands with smaller market share may eventually be locked out of the market primarily resulting in unemployment.

- 5.20 Nanyang Brothers Tobacco Company Limited manufactures cigarettes in Hong Kong and the increased costs associated with a requirement for cigarette packets to carry pictorial health warnings could lead to substantial incremental cost for them and multiplier effects on their vendors. Possible effects from this may be jobs being lost at its factory, as well as at their vendors.
- 5.21 British American Tobacco Hong Kong estimates that it alone would incur a one off development cost of HK\$36m in complying with the proposed requirements for pictorial and graphic health warnings and increased size health messages, plus a recurring additional cost of HK\$10m per year.
- 5.22 Owing to the variation in size of cigar boxes and the comparatively small turnover of cigar products, the proposed size specification for health warning labels on cigar boxes will create a huge technical problem for cigar importers in Hong Kong. Therefore, we would suggest, as is the case in the Canadian regulation, that health warning labels be fixed in size if the size of the cigar box is within a certain range, instead of a percentage approach (*see http://www.hc-sc.gc.ca/hecs-sesc/tobaccollegislation/prop_may_13.html*).
- 5.23 We submit that the Government should be very cautious about introducing legislation which might risk weakening the local economy. If the Government does opt to require the use of graphic health warnings, a sufficiently long implementation period must be given to manufacturers and printers to change their production processes. We believe that a transition period of at least 18 to 24 months would be required.

Legal Implication

- 5.24 It is submitted that graphic health warnings are intended to do more than inform the reader about the health risks of smoking – they will create social embarrassment by marking out the smoker as a person who, when carrying a cigarettes pack, carries on him unpleasant, repulsive even, pictorial representations of death and disease.
- 5.25 In communicating a graphic message in this way the graphic health warnings impinge on two important freedoms protected by the Basic Law: (i) freedom of expression; and (ii) freedom of private ownership of property including intellectual property rights.

5.26 The introduction of graphic health warnings and the size required of graphic health warnings have the effect of distorting the cigarette package beyond recognition. Cigarette package will become largely generic and the function of the packaging on a trade dress to indicate origin will be significantly undermined, which has the direct effect of wiping out any goodwill attached to the get up which is recognized as personal property of its owner. This is a blatant breach of the Basic Law (e.g. Article 6 and 105). This is downright compulsory deprivation of intangible personal property by destruction.

Freedom of Expression

5.27 The introduction of graphic health warnings entrenches on the freedom of publication which is an aspect of the wider concept of freedom of expression guaranteed under the Basic Law. Article 39 of the Basic Law incorporates, amongst others, Article 19 of the International Covenant on Civil and Political Rights ("ICCPR")².

5.28 Freedom of expression has been interpreted by the courts in other common law jurisdictions to "*necessarily entail the right to say nothing, or the right not to say a certain thing.*" (Supreme Court of Canada in R.J.R MacDonald v Attorney General of Canada [1995] 3 S.C.R). The Government has available to it numerous channels to convey its anti-smoking message; forcing tobacco companies to express it by commandeering the packages of their products is needlessly heavy-handed.

5.29 Unlike regulation by the Government on other social issues, tobacco control legislation in Hong Kong is much more sweeping, and less rights-sensitive. This contrasts significantly with legislation in the area of alcohol abuse, where, despite the high incidence of alcohol related serious crimes and vehicular deaths, much less aggressive measures have been implemented to discourage individuals from engaging in otherwise legal behaviour.

5.30 Just as a person has the right to publish honest and accurate information about a product so as to inform prospective purchasers, so too he has a right not to publish information in certain circumstances. One of those circumstances is when a third party, usually Government or a public authority, coerces him into publishing information which he does

² Article 19 of the ICCPR provides: "... Everyone shall have the right to freedom of expression .. [which may] be subject to certain restrictions, but these shall only be such as are provided by law and are necessary ... for the protection of public health ..."

not want to publish. The Supreme Court of Canada has held that the "*freedom of expression necessarily entails the right to say nothing or the right not to say a certain thing*".

Encroachment on Intellectual Property Rights

- 5.31 Mandatory graphic health warnings encroach upon at least two types of intellectual property rights with significant economic consequences to their owner, namely,
- (i) the ownership of registered trade marks as a property right recognised under the Trade Marks Ordinance, Cap.559; and
 - (ii) the ownership of goodwill attached to a get-up or trade dress used in relation to the sale of the product as a property right recognised under common law.
- 5.32 One of the fundamental purposes of trade mark law is to provide a system of distinguishing one trader's goods or services from those of another. This is vital consumer information and an inherent right of trade mark owners. The imposition of requirements for graphic and pictorial content on tobacco packages could result in a significant obscuring of a tobacco company's trade mark and make it difficult for the public to distinguish the products of one tobacco company from those of another. This will leave the trade mark owner less able to avail himself to the protections against infringement found in the Trade Marks Ordinance (Cap. 559).
- 5.33 In addition to adversely affecting the rights of trade mark owners under the Trade Mark Ordinance, the graphic health warnings would also affect a trader's common law right to a remedy in passing off where his get-up is imitated by that of another. If all cigarette packages would in effect have more or less the same get-up it would be very difficult for any tobacco company to take action for passing off successfully. Tobacco trade mark owners would in effect be barred from the common law remedy of passing off. The trade mark is a valuable asset of its owner, who will take all necessary steps to protect the mark and the inherent equity in that mark.
- 5.34 The manufacturer is already left with little space on the packaging with which to enable the packaging to perform the function of distinguishing its product from others. The change in existing get-up dictated by graphic health warnings requirements will be drastic and is incapable of any gradual steps of introduction: to introduce an intermediate get-up

over the grace period will make it even more confusing for consumers. To compound the problem further, unlike traders of other consumer products, members of the tobacco trade are not even in a position properly to bring to consumers' attention through advertising the changes made to the get-up.

5.35 To comply with the graphic health warnings requirements – that require a devotion of at least 50% of the area of the front and the back of the packaging for the Chinese and English versions of the health warnings respectively, any existing front and back labels will have to be distorted beyond recognition. The goodwill attached to the abandoned get-up undermined by graphic health warnings cannot be revived even if future legislation were to permit a re-use of the previous get-up. Its value will have to be written off. This is downright compulsory deprivation of intangible personal property by destruction.

5.36 The inevitable result will be that cigarette packaging will become largely generic, and the function of the packaging as a trade dress to indicate origin will be significantly undermined. Goodwill attached to the get-up as personal property of their respective owners will be wiped out and without compensation at a stroke. The proposition may be tested by taking the scenario to its extreme: if the Government were to decree that one generic get-up is to be used from now on to market tobacco products, it will be impossible to say that private property is not being confiscated by such an enactment.

Contrary to Obligations undertaken by Hong Kong in International Treaties

5.37 Government legislation requiring tobacco companies to include graphic pictorial images on their health warnings may be contrary to obligations undertaken by Hong Kong as a signatory to various international treaties. These include GATT, and in particular, the Uruguay Round on Trade Related Aspects of Intellectual Property Rights (TRIPS). Article 20 of TRIPS states that

“the use of a trade mark in the course of trade shall not be unjustifiably vigorously encumbered by special requirements, such as use of another trade mark, use in a special form or use in a manner detrimental to its capability to distinguish the goods or services of one undertaking from those of other undertakings”.

5.38 Hong Kong is also a signatory to numerous bilateral investment agreements with other countries that promote favourable conditions for mutual investment. Such agreements

have been signed with Australia, Austria, Denmark, France, Germany, Italy, Japan, Korea, The Netherlands, New Zealand, Sweden, Switzerland, U.K. and others. These agreements state that signatories should create favourable conditions for greater investment by investors of other signatories. Legislation that impacts the intellectual property rights of traders under both trade mark law and common law may be regarded by Hong Kong's treaty partners as Hong Kong acting inconsistently with its treaty obligations.

Compulsory Deprivation or Devaluation of Private Property

5.39 It is submitted that implementing graphic health warnings will undermine the image that Hong Kong has been keen to promote in recent years as a jurisdiction where intellectual property rights are enforced and recognised in compliance with obligations under international treaties. This has been demonstrated by the number of ordinances passed during recent years such as the Organised and Serious Crimes Ordinance (Amendment Schedule 1) Order 1990 passed in January 2000, the Intellectual Property (Miscellaneous Amendments) Ordinance 2000 and the Trade Marks Ordinance.

5.40 We acknowledge that in some circumstances freedom of expression and property rights can be restricted but only where there is a pressing social need, such as public health protection and the restrictions in question are necessary and proportionate. The graphic health warnings proposal does not satisfy either of these requirements. The burden is, therefore, on the Government to demonstrate why these new graphic health warnings are effective. This means producing empirical evidence to show why the simple and unequivocal health warning message that smoking can seriously damage health cannot be communicated by means other than graphic health warnings and why graphic health warnings will be effective. It needs to show also that these particular warnings – graphic and unpleasant and of a minimum size – can only be effective when placed on a cigarette packet.

Better Alternatives

5.41 We submit that the following alternatives to pictorial and graphic health warnings should be explored:

- The language of textual messages could be varied.

- Warnings could be constructive and helpful; for example greater attention could be paid to providing information and advice on how to quit smoking
- Adopting other, more effective ways of communicating with consumers, including public health campaigns.

BANNING THE USE OF DESCRIPTORS

5.42 At present, the use of descriptors on the packaging of any tobacco product, such as “light”, “mild” and “low tar” is permitted. The Government maintains that there is no scientific evidence indicating that products with these descriptors pose lesser health risks to smokers, and claim that such descriptors may give the false impression that the tobacco products concerned are less harmful than others, thus encouraging deeper inhalation and increased daily consumption by smokers. The Government therefore proposes to amend the existing Ordinance to prohibit the appearance on the packaging of any tobacco product of the words “light”, “lights”, “mild”, “milds”, “low tar” or other words that may have the same misleading effect.

OUR COMMENTS

5.43 As regards the suggestion that the use of descriptors might convey the impression that such products are less harmful, our position is clear: smoking any cigarette carries a real risk of disease and no one should smoke without being aware of these risks associated with smoking. Thus we make no health claims for any of our products.

5.44 Descriptors help consumers distinguish the taste characteristics of different brand styles whose tar and nicotine yields are measured by a standardized test method. We strongly believe that such terms are important to help consumers make a choice between brands based on taste and strength preferences. Banning the use of descriptors will create confusion among consumers.

5.45 Banning descriptors would further be ineffective because it would do nothing to improve smokers' understanding of the risks associated with smoking, especially in the context of products that contain less tar and nicotine compared to other brands. If there is a concern that smokers do not fully understand the risks associated with these products, the answer

is to take steps to give them more, not less, information about such low tar and nicotine products.

Correct Approaches to Address Concerns about Descriptors

5.46 Providing consumers with more information about low tar/nicotine products could include awareness campaigns to advise smokers that:

- no cigarette has been scientifically proven to be less risky than any other;
- the amount of tar and nicotine that smokers inhale varies depending on how they smoke; and
- the use of descriptors does not mean that a particular product is less risky than others.

5.47 Such information can be communicated to consumers through a range of media, including on the product packaging itself. Statements can be used such as "*The expression 'light' or 'mild' does not mean that this product is less harmful to health than other tobacco products*". This option has already been adopted in Japan.

5.48 The above alternatives are significantly less problematic and less restrictive than a descriptor ban, and can far better achieve the goal of providing smokers with more, not less, information about the health risks associated with tobacco products. An outright ban on descriptors would be a disproportionate response.

Correct Approaches to Address Concerns about Descriptors

5.49 Providing consumers with more information about low tar/nicotine products could include awareness campaigns to advise smokers that:

- no cigarette has been scientifically proven to be less risky than any other;
- the amount of tar and nicotine that smokers inhale varies depending on how they smoke; and
- the use of descriptors does not mean that a particular product is less risky than others.

- 5.50 Such information can be communicated to consumers through a range of media, including on the product packaging itself. Statements can be used such as "*The expression 'light' or 'mild' does not mean that this product is less harmful to health than other tobacco products*". This option has already been adopted in Japan.
- 5.51 The above alternatives are significantly less problematic and less restrictive than a descriptor ban, and can far better achieve the goal of providing smokers with more, not less, information about the health risks associated with tobacco products. An outright ban on descriptors would be a disproportionate response.

6. ENFORCEMENT

- 6.1 One of the Government's stated objectives in amending the existing Ordinance is to bring about more effective enforcement of the legislation. The Government acknowledges that the current enforcement mechanism is not well coordinated, with different government departments trying to enforce different provisions of the Ordinance. The Tobacco Control Office ("TCO") was set up in 2001 to undertake a coordinating role, but in the absence of clearly laid out enforcement guidelines, there has been much confusion in trying to enforce the provisions of the existing Ordinance.
- 6.2 We note the Government's proposed amendment to introduce provisions empowering staff of the TCO, to initiate prosecutions against various offences, and its intention to confer powers of enforcement on managers of indoor workplaces, restaurants and bars. However, we believe that the Government needs to go further in that it must propose specific and workable plans for enforcement of the individual proposed amendments. To this end, the Government and the TCO must consult with those who will be directly affected by the proposed amendments (i.e. the managers of indoor workplaces, restaurants and bars) to identify the specific enforcement measures to be adopted.
- 6.3 Further, we propose establishing a mechanism for regular communication between ourselves and the Government to promote effective enforcement of legislation, where possible, by self-regulation. In this regard, we would particularly like to work closely with the Government to stop supply of our products to retail outlets convicted of selling cigarettes to under-aged persons or which are involved in illicit cigarette activities.

APPENDIX 1

ECONOMIC IMPACT OF SMOKING BANS IN RESTAURANTS AND BARS IN DIFFERENT COUNTRIES/STATES/CITIES

UNITED STATES

New York

On 30 July 2003, a state-wide smoking ban came into effect, prohibiting smoking in all work places, including bars, restaurants and nightclubs, as well as off-track betting parlours, bowling alleys and company cars.

In an effort to voice their concerns, the New York Nightlife Association and the Empire State Restaurant and Tavern Association commissioned a report by Ridgewood Economic Associates (“REA”) to investigate the economic impact of the New York State smoking ban on New York’s bars. (*Ridgewood Economic Associates, Ltd “The Economic Impact of the New York State Smoking ban on New York’s Bars” 12 May 2004*) REA based its analysis on employment, workers’ compensation and other data collected by the New York State Department of Labor, the U.S. Census Bureau and the U.S. Department of Labor. The study’s findings illustrated a direct economic loss in bars and taverns totalling:

- 2,000 jobs (10.7% of bar employment);
- \$28.5 million in wages and salary payments; and
- \$37 million in gross state product.

In addition, the study found that there were also indirect losses suffered by other businesses which supply and service the State’s bars and taverns:

- 650 jobs;
- 21.5 million in labour earnings; and
- \$34.5 million in gross state product.

The REA study found that New York’s bars had cut employees significantly. In 2002, bars in New York State employed 19,158 workers; bars in New York City employed 6,662 bar workers. By 2003, these figures had fallen to 18,757 and 6,586 respectively. This drop is all the more dramatic when it is remembered that 2002 was a year of economic depression for the State and the City was still coming to terms with the 2001 terrorist attacks.

The report’s conclusions were stark:

“New York State’s public smoking ban has resulted in dramatic economic losses in bars and taverns across the State. This reduction translates into a negative overall economic impact in 2003 with more than \$70 million in economic activity, \$50 million in lost wages, and the elimination of more than 2,650 jobs state wide”.

This was the second study to investigate the economic impact of the New York smoking ban. In early December 2003, eight months after the City’s ban came into effect, International Communications Research conducted an impact study which found that:

- one third of New York City bars, hotel and nightclubs had reduced staffing by an average of 16% since the ban took effect;
- ¾ of all affected bars and restaurants had experienced a decline in patronage averaging 30%; and
- bars and nightclubs that do not offer food reported a reduction in alcohol sales approaching 20%.

Massachusetts

A report prepared in 1996 by InContext Inc (*William Lilley III and Laurence J. DeFranco "Massachusetts Restaurant Smoking Bans – 23 Cities/Towns: Impact on Restaurant Jobs 1993-1995"*), analysed what happened to restaurant jobs in Massachusetts' communities that enacted restaurant smoking bans. These studies' conclusions were drawn solely from local economic data provided by Dun & Bradstreet and the US Census. The study makes it plain that it is not based on the subjective opinion of hospitality owners and managers:

"the studies conclusions do not rest in any way on economic assumptions about employer behaviour, working behaviour or customer behaviour. The study measured the number of restaurant jobs as reported by proprietors/managers to Dun & Bradstreet, for the entire three year period of 1993 through to 1995 for Massachusetts communities with smoking bans".

The overriding conclusion of the study was that any community which enacts a strict restaurant smoking ban will ultimately lose restaurant jobs. The study found that the average percentage of local jobs lost in communities that enacted restrictive smoking bans was 21%. The study also found that there was a proportional link between the number of job losses and the severity of the imposed ban.

The study assessed the varying impact of the smoking ban in reference to socio-economic or demographic characteristics of the communities adopting the bans in an attempt to understand the key causes of a negative economic impact. However, the study found that the most important criteria in assessing impact on local restaurant jobs was the severity of the ban:

"Put simply, if the ban is strict, the odds are very high that significant numbers of local restaurant jobs will be lost. Similarly, the less strict the ban, then the less impact it will have on restaurant jobs".

California

With effect from 1 January 1995, California banned all smoking in restaurants, and three years later, extended this prohibition to all free-standing bars in the State.

Prior to the imposition of the state-wide ban, some cities imposed their own bans on smoking, for example, the city of San Luis Obispo in California imposed a ban on smoking in all enclosed public spaces late in the summer of 1990. A study by Creticos & Associates, Inc. and Northwestern University was carried out between 1990 and 1991 in the San Luis Obispo area (*Louis H. Masotti, Ph.D. and Peter A. Creticos "The Effects Of A Ban On Smoking In Public Places In San Luis Obispo, California"*.) The study found that sales tax data

from 1989 and 1990 indicated that sales in eating and drinking establishments in San Luis Obispo dropped significantly in the third and fourth quarters of 1990 when compared to the same quarters of the previous year. These losses were found to be inconsistent with trends and tax receipts in similar establishments across the State of California. They also did not match trends in sales tax receipts for other types of retail generally or in receipt for apparel and general merchandise stores.

Another key finding of the study was that there was no evidence to suggest that the revenue lost from smokers would be recouped from non-smokers.

“Although the restaurants and bars within the area affected by the ban may hope to offset their losses with non-smokers seeking a smoke-free environment, there is nothing in San Luis Obispo’s experience to suggest that such benefits will accrue.”

CANADA

British Columbia

On 1 January 2000, the Workers Compensation Board of British Columbia amended its workplace smoking restrictions to include all hospitality venues in the province of British Columbia. The smoking restrictions were in effect for just over 2 months. On 22 March 2000, Justice Stromberg-Stein ruled that the Workers Compensation Board had failed to adequately consult stakeholders of the amendments to the workplace smoking restrictions and overturned the regulations.

The following year the Workers Compensation Board considered reintroducing the workplace smoking restrictions. Before doing so it commissioned Pacific Analytics Inc. to provide a report on what economic impacts a proposed amendment would have in hospitality businesses (*Pacific Analytics Inc. “The Economic Impacts of the Proposed Amendment to the ETS Regulation.”*). Despite the fact that the report was commissioned for the purposes of the Workers Compensation Board, the report highlights a dramatic short-term reduction in alcohol sales for the two months of implementation of the regulations. The study indicates that during the month of January (the first month the regulations were in force), the amendment reduced overall purchases by an estimated 12.3%:

“The amendment likely reduced overall sales in the neighbourhood of \$8.25 million in the whole of the province.”

The study found a drop of 4.9% in purchases in February, which translates to a decline in sales of \$4 million. The report highlights a significant short-term reduction in purchases of alcoholic goods in hotels/resorts, dining establishments and pubs.

New Brunswick

With effect from 1 October 2001, smoking was banned in all indoor public places in New Brunswick. An article dated 9 December 2004 published on the Canadian Restaurant and Foodservices Association website reported that more than 70% of bars and pubs had been hurt by the smoking ban:

“(December 9, 2004) New Brunswick's smoking ban is having a negative impact on the province's bars, pubs, taverns, legions and nightclubs, with 71% reporting a sharp decline in liquor sales during the first month of the ban, which took effect October 1, 2004.

The result is from a comprehensive survey sent by the Canadian Restaurant and Foodservices Association (CRFA) to liquor-licensed establishments across New Brunswick, including restaurants, bars, pubs, legions, nightclubs, billiard halls, bowling alleys and private clubs. The association received 223 completed surveys evenly split among licensed restaurants (32.5%), pubs and bars (34.0%), and other licensed establishments (33.5%) including nightclubs, legions, bowling alleys and billiard halls. With a sample of this size, the results are considered accurate to within ± 7.0 percentage points, 19 times out of 20.

The smoking ban is having a devastating impact on the small businesses that dominate the pub, bar, tavern and nightclub sector of the hospitality industry. Fully 79% of drinking establishments report the smoking ban is having an impact and 71% say the impact is negative. Pubs, bars and taverns report an average decline in liquor sales of 23.9% in October compared to a year earlier, nightclubs a decline of 34.5% and legions a decline of 18.8%.

The frustration felt by many New Brunswick hospitality business owners is highlighted by written comments on many of the completed surveys:

“Had I known that the government was going to cut my business in half, I wouldn't have spent \$45,000 on renovations.” (Lounge, Moncton)

“Customers are staying home rather than standing outside.” (Pub, Miramichi)

“Many customers now eat and run, leaving to smoke in their vehicles instead of staying to have a second beverage.” (Pub, Saint John)

“My restaurant has been non-smoking for three years but less customers are coming to the bar before or after eating.” (Restaurant & Bar, Grand Bay)

“Where are all the non-smokers who said that they would go out to eat more often if there weren't any smoke?” (Bar & Grill, Campbellton)

“Well ventilated smoking rooms should be allowed.” (Bowling Alley, Cap-Pele)

“We have New Brunswick's biggest native reserve 4 kilometres away where smoking is allowed. My liquor sales are down 40%.” (Bar, Richibucto)

“I had to hire two more bouncers for cigarette surveillance.” (Nightclub, Grand Falls)

“Our business has seriously declined. The smokers say that instead of being forced outdoors they would prefer to drink their beer at home where they can smoke.” (Bar, St. Francois)

“Bar sales are suffering the most. Food sales are off and didn't increase as critics suggested.” (Restaurant & Bar, Saint John)

*“Liquor sales are off 75%. I will be forced to close if smoking ban is not lifted.”
(Bar, Burnt Church)*

“Help!” (Pub, Fredericton)

The survey reveals that the impact of the smoking bans is substantially different for restaurants than it is for pubs, bars, taverns and nightclubs. An even 50.0% of restaurants report no impact from the smoking ban, with many noting they voluntarily stopped smoking in their dining rooms before the legislation was introduced. Another 15.2 % of restaurants say the ban is positive for business, while 22.7% say it is hurting sales and 12.1% aren't sure whether or not the smoking ban is having an impact.

New Brunswick's smoking ban was rushed through the provincial legislature earlier this year without public hearings. “The industry presented a comprehensive plan that would have protected customers and employees from exposure to second-hand smoke while mitigating the impact on small business,” says Luc Erjavec, CRFA's Vice President, Atlantic Canada. “The government chose to ignore a reasonable solution with the result that businesses are suffering and job losses are resulting from this heavy-handed legislation.”

The CRFA advocates indoor air quality standards that protect customers and employees from exposure to second-hand smoke. The provinces of Nova Scotia, PEI, and British Columbia, together with scores of municipalities like Calgary and Toronto, permit properly ventilated designated smoking rooms (DSRs) which have saved many small businesses from bankruptcy.”

Ottawa

In 2001 KPMG was engaged by the city of Ottawa to research and monitor economic and health impacts of the smoke-free by-laws covering public places and places of work that went into effect on 1st August 2001. Despite being commissioned by the State authorities, the report noted a significant economic impact on bars in the area during the period of the regulations: *“It appears bars and pubs have experienced a more difficult year than restaurants.”*

Unsurprisingly, the report is reluctant to attribute this loss in revenue to the enactment of the smoke-free by-laws. However, on several occasions, the report makes it clear that this decline could be as a result of the smoke-free regulations based on the survey's limited data. The report found that insolvency arrangements for restaurants remained consistent over a 3 year period. However, there was a significant increase in insolvency arrangements entered into by owners of bars, taverns and nightclubs. The bankruptcies coincide with a decrease in Ontario domestic beer sales for the period covered. There was a decrease of 0.1% across the Ontario region; however, there was a decline of 10% in Ottawa, the area subject to the smoke-free by-laws.

IRELAND

With effect from 29 March 2004, smoking was banned in the following places, in so far as they are a place of work: public transport, hospitals, health premises, schools and colleges, any part of a building to which the public have access, cinemas, theatres, entertainment facilities, licensed premises and registered clubs, as well as work places.

Before the ban was implemented, a study was carried out by A & L Goodbody Consulting in August 2003 (*A&L Goodbody Consulting "Regulatory Impact Assessment on Draft Ministerial Regulations to Ban Smoking in the Work Place including Hospitality Venues"*) on behalf of the Irish Hospitality Industry Alliance. The study found:

"it is highly probable that the government's proposals will result in a fall of sales, with commensurate redundancies. The Exchequer's receipts from alcohol will fall, as will the commercial value of a large number of hospitality venues".

The study suggested that a considerable number of jobs could be lost ranging from a lower estimate of 10,700 up to a possible 64,200. The study also predicted a compliance cost to the hospitality sector of €200m.

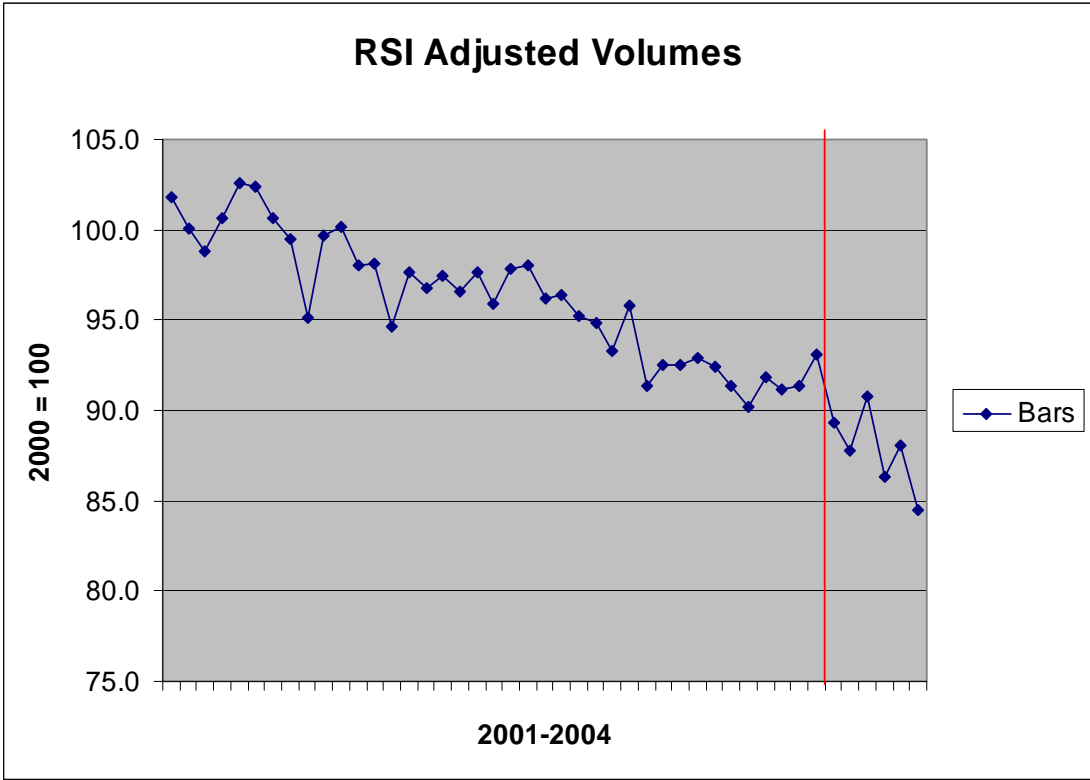
Since the ban was implemented, a study has been carried out by the market research company, Behaviour and Attitude, which was commissioned by the Dublin publican representative body, the Licensed Vintners Association (LVA).

The study was carried out amongst 277 pub owners/managers who represent approximately half of the Dublin trade. 63% of Dublin publicans surveyed described the smoking ban as having a major impact on their business with 55% citing a 'major decline' in trade. The survey found that the net change in turnover since the introduction of the smoking ban was a decline of 16%.

In addition, this loss of revenue was reflected in employment statistics. The Dublin licensed trade currently employs 14,000 full time and part time employees. Publicans reported numbers of part time staff employed after the ban had decreased by 19%. In combined terms, the average estimated numbers of full time and part time staff had declined by 14%. The results of the study therefore indicate that 2,000 full time and part time jobs are being lost in the Dublin pub trade alone.

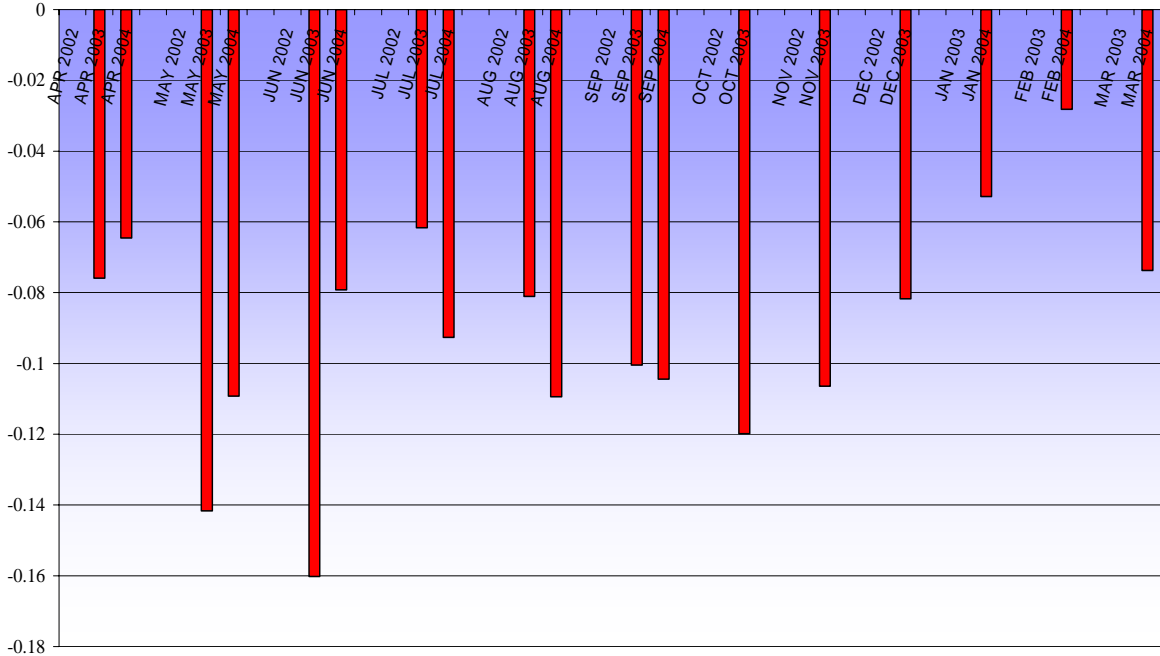
The Irish bar trade has been in decline in recent years as consumers gradually switched to drinking at home. After only a few months of the ban, it is therefore difficult to isolate the absolute impact of the ban, a task which has been entrusted to Ernst & Young who will produce a full report in coming months and we will make that available to the government once it becomes available to us.

As can be seen from the the Irish Government's Retail Sales Index figures, the on trade volumes in the first months of the ban were buoyed by relatively good weather. In July and August it rained even more than usual, and year-on-year comparatives slipped considerably. These conclusions were also drawn in the debut interim figures from C&C who distribute Bulmers, the most popular cider in Ireland. September was by far the worst month since the introduction of the ban, with the RSI showing a volume fall of almost 9% against September 2003.

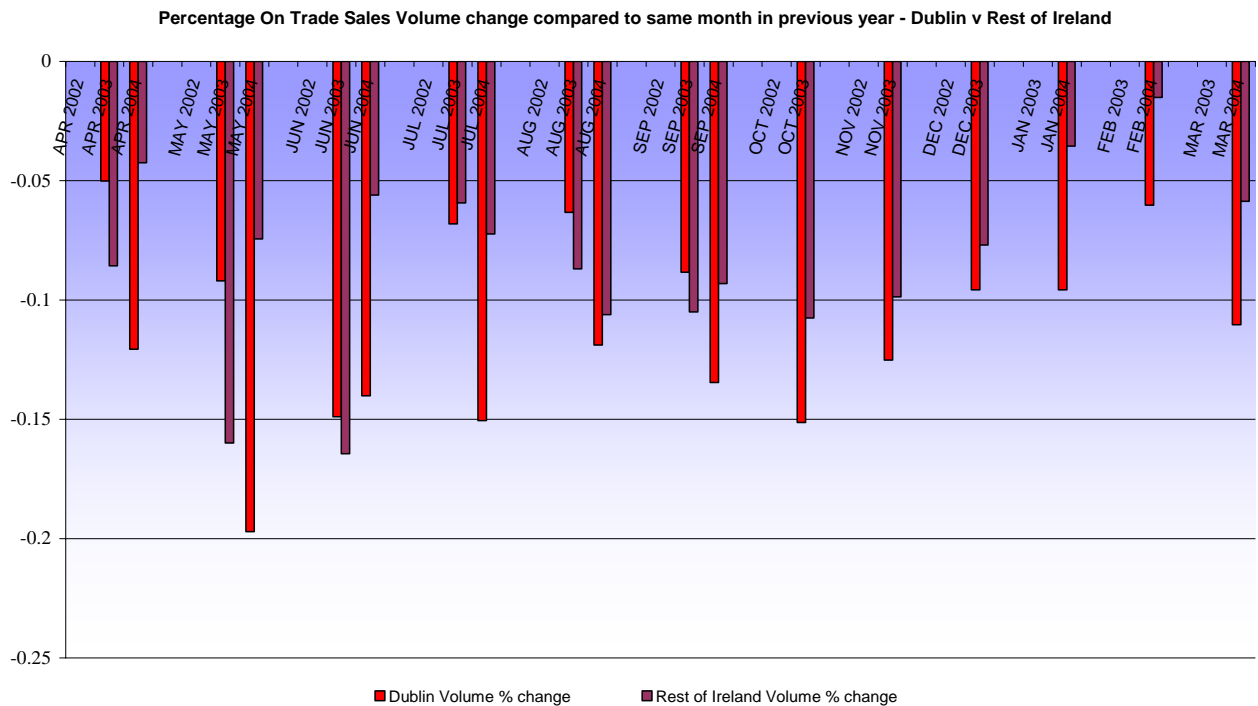


The same story is told by A C Nielsen on trade data. Month-on-month comparisons with 2003 show a reduced fall in April to June, but an accelerated decline from July onwards.

Percentage On Trade Sales Volume change compared to same month in previous year

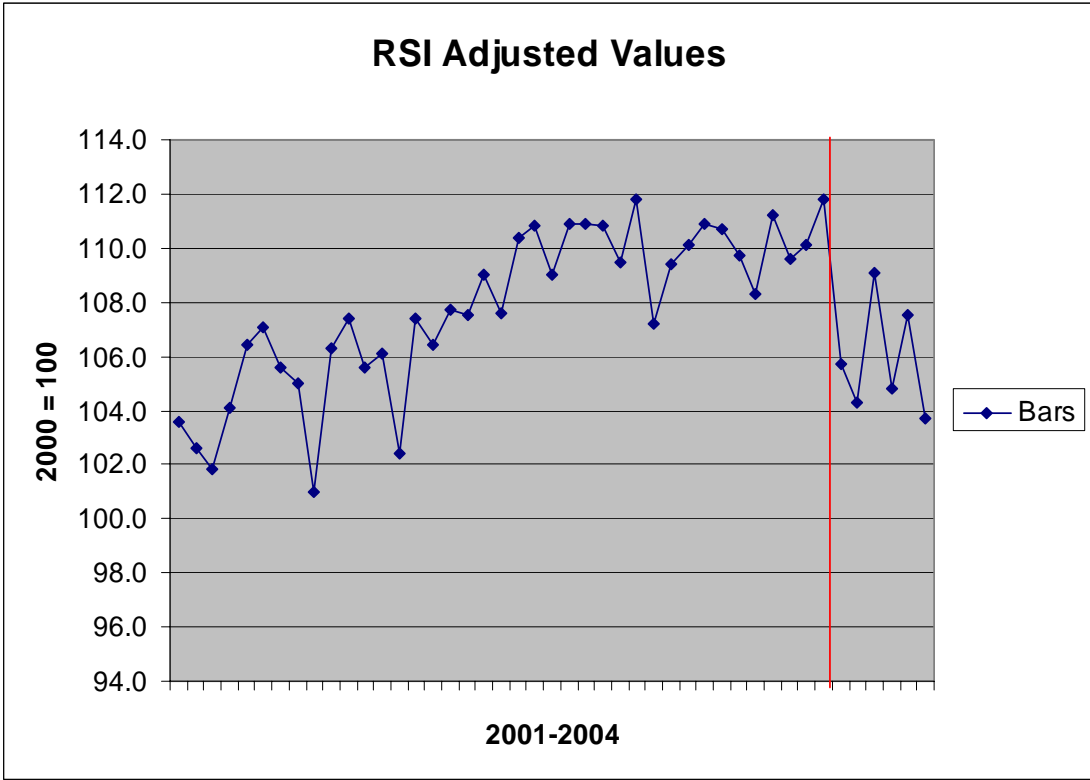


Nielsen data also shows a clear regional split. Dublin volumes have been showing an accelerated decline every month since the ban, whereas regional volumes were relatively stronger until July.

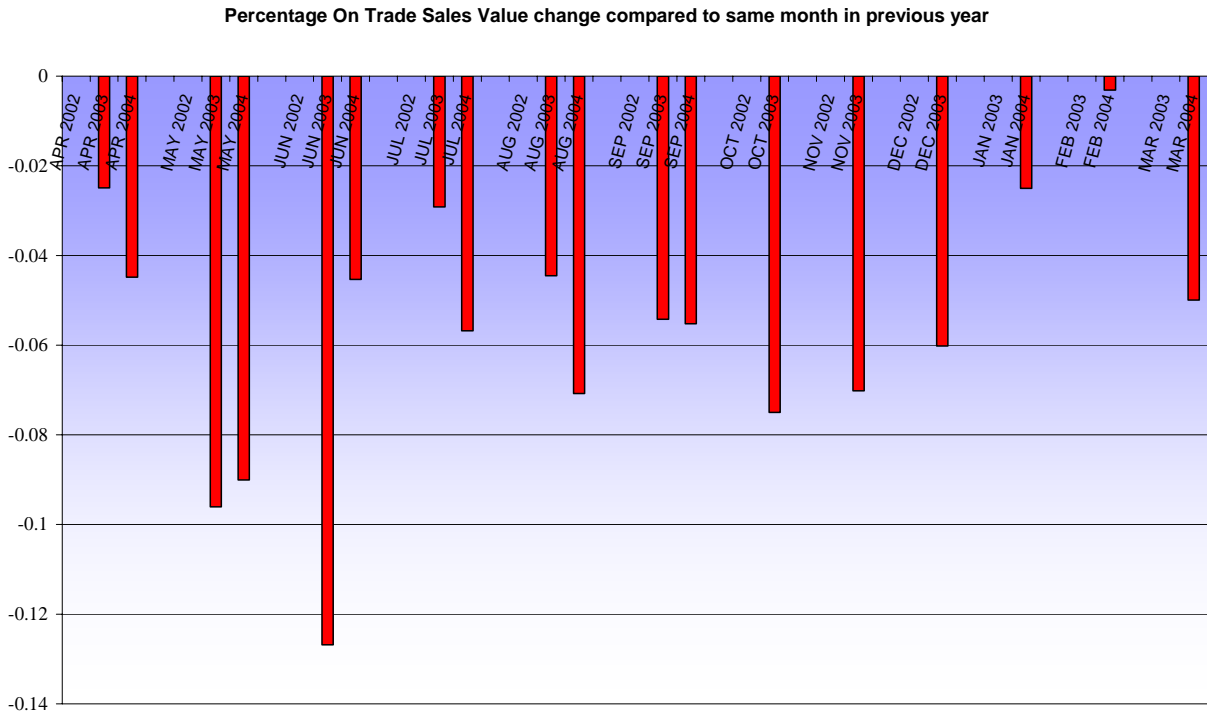


Turnover

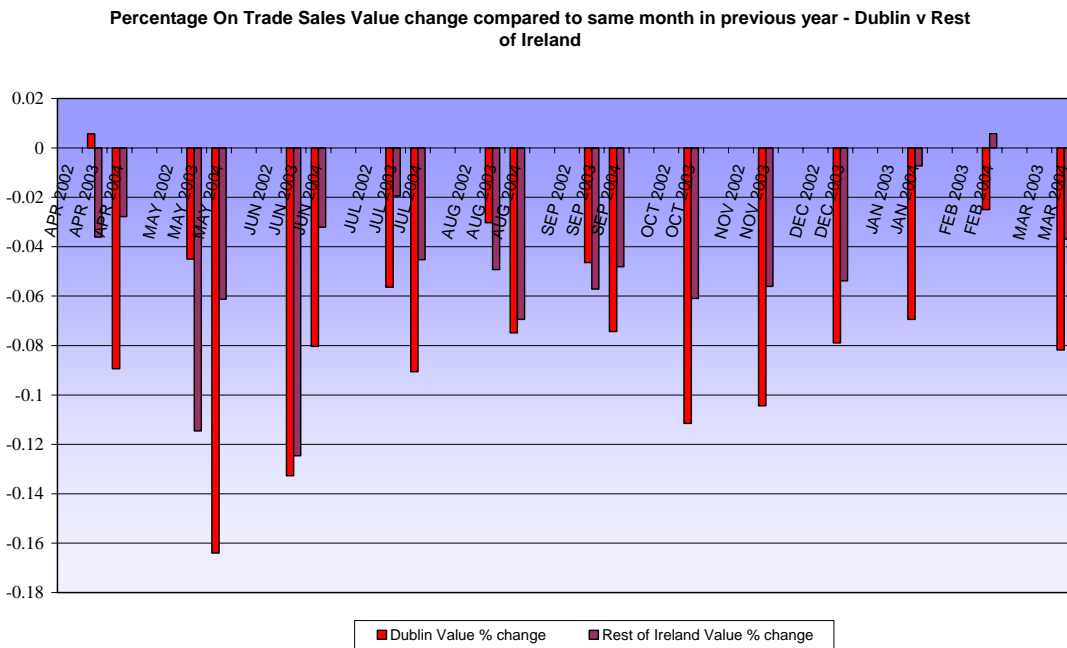
The figures on turnover present a much starker situation for the on trade. Prior to the ban, volume declines were offset by price increases. Despite a large price hike in June 2004, turnover is now in serious decline. As the RSI would include food in its turnover figures, whereas Nielsen only covers liquid refreshments, the numbers would seem to indicate that there has been no major increase in turnover on meals in pubs. September was again the worst month to date, with turnover down over 6% against the previous year.



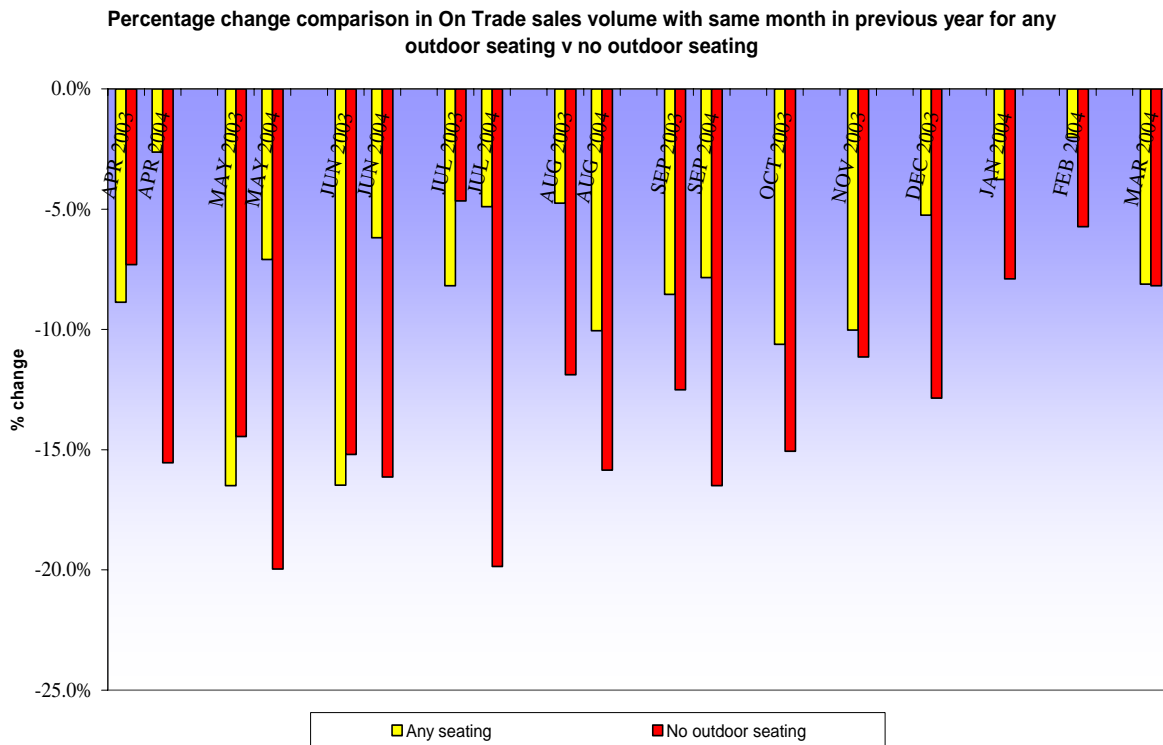
Nielsen month-on-month comparisons are not available for as long a period as the RSI, but do demonstrate a significant acceleration since the summer.



Again the situation is significantly worse in Dublin.



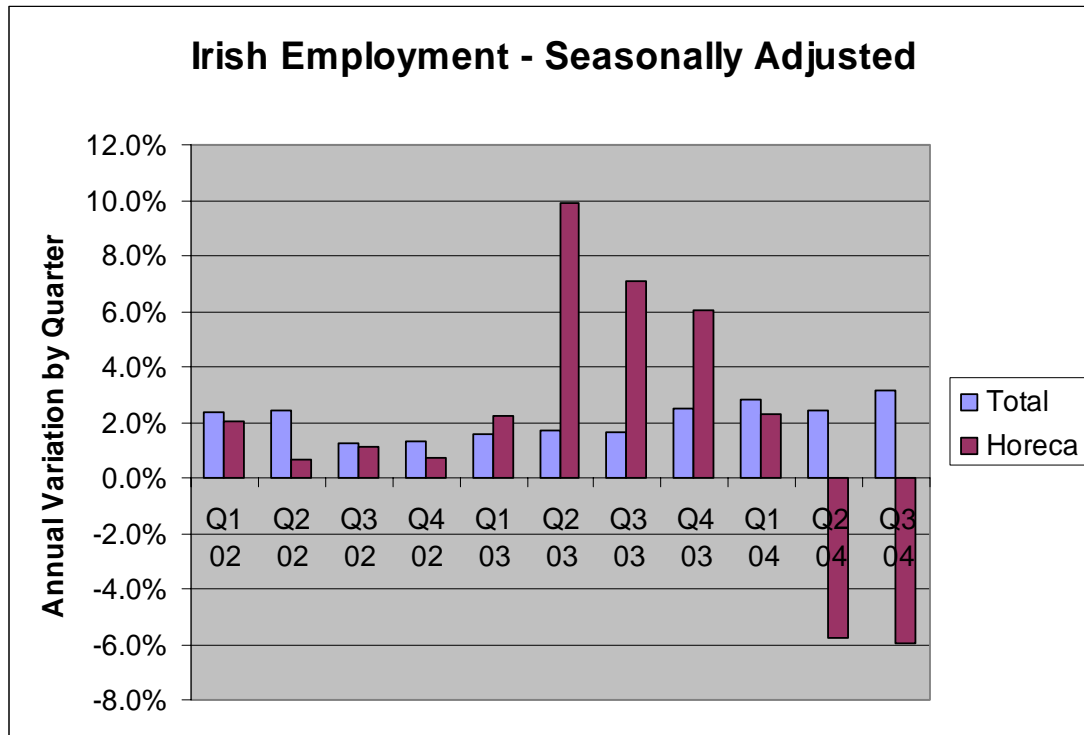
The greater rate of decline in Dublin may be due to fewer pubs having the space for large outdoor areas. This data is also available from Nielsen and shows a startling disparity between outlets which are willing or able to offer outdoor seating. This contrasts starkly with 2003 when the performance of the outlets was similar.



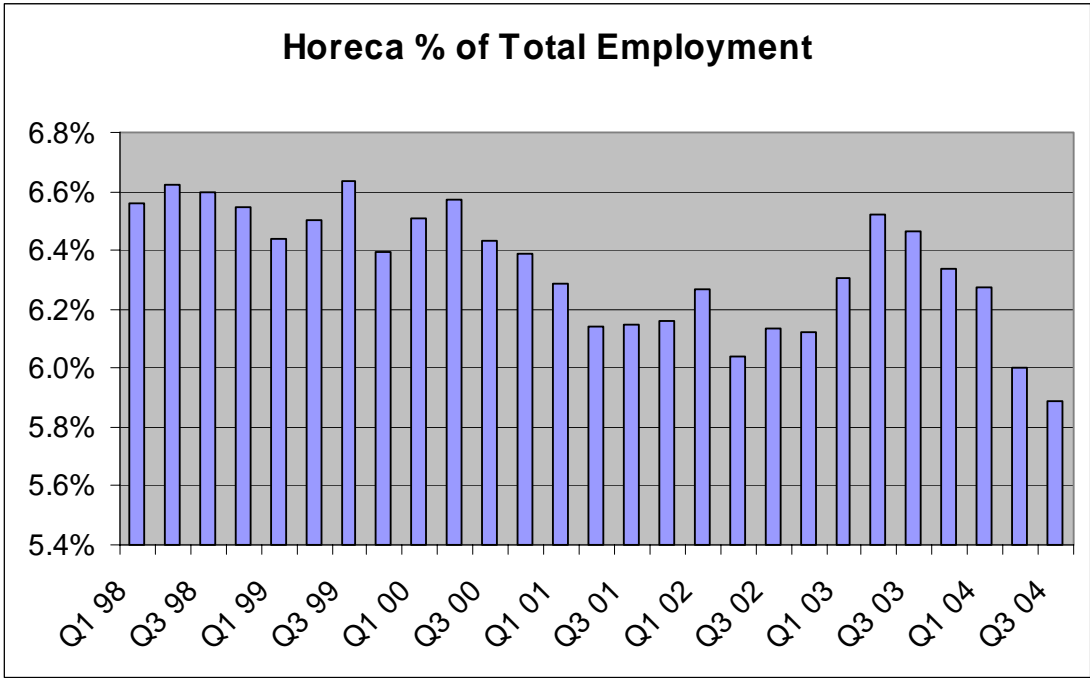
Employment

With both volume and turnover in decline, the Irish on trade has to cut costs. Whereas employment in hotels, restaurants and cafes (Horeca) continued to rise until this year, the figures for Q2 2004 (*Irish Government Central Statistics Office*) show a dramatic shift, despite an ongoing increase in overall employment.

The decline shown in the graph equates to the loss of 7,000 jobs in the third quarter of 2004 on a seasonally adjusted basis, 5.3% below the final quarter prior to the ban, and 6.0% below Q3 2003.



This shift in Horeca employment means that the sector now accounts for the lowest percentage of overall jobs in Ireland in recent history.



Conclusion

The Irish smoking ban has achieved the Minister for Health’s objective of all but eradicating smoking in the workplace. However, despite the Minister’s assurances that the ban would have a neutral or positive effect on the Horeca sector, it is clearly having a major impact on pubs in particular, which can only deteriorate throughout the winter months.

CODE OF CONDUCT

1. GENERAL

1.1 Members of the previous Tobacco Institute of Hong Kong (the Institute) comprised all the major tobacco manufacturers and importers in Hong Kong. All members have adopted a Code of Conduct for self regulation with regard to their business practice since 1988. Following the passage of the Smoking (Public Health) (Amendment) Ordinance in 1997, the Institute amended the Code to take into account the changes introduced in the legislation.

1.2 Following the Institute's dissolution in December 2004, the majority of the Institute's members established the Tobacco Association of Hong Kong (TAHK) in May 2005 and adopted the Code of Conduct from the Institute. The membership of TAHK consists of persons or companies carrying on tobacco business in Hong Kong and/or carrying on any business related to the tobacco industry, including but not limited to retailers, wholesalers and distributors of tobacco products, and/or agents and employees of those companies.

1.2 Members of TAHK will strictly operate in accordance with the laws of Hong Kong and in particular the Smoking (Public Health) (Amendment) Ordinance 1997 setting forth restrictions on the sale, packaging and marketing of tobacco products.

1.3 Members of TAHK will go beyond the relevant restrictions to prevent and discourage underage smoking.

1.4 It is the long standing and unequivocal policy of members of TAHK that any tobacco marketing activity will only be directed towards adult smokers, with the aim of effecting a change of brand and maintaining brand loyalty.

1.5 This Code applies to all members within the territory of the Hong Kong Special Administrative Region.

2. BREACHES OF THE CODE

2.1 Any member is entitled to file a written complaint with TAHK concerning any alleged breach of this Code by another member. If the alleged breach is not rectified by the offending member or otherwise resolved through mediation and consultation between the parties concerned and TAHK within a reasonable time, then TAHK reserves the right to take disciplinary action against the offending member which may include disqualification from membership of TAHK.

3. SMOKING – GENERAL POLICY

3.1 Members of TAHK believe that both smokers and non-smokers should respect the lifestyle choices and accommodate the preferences of each other.

3.2 Members of TAHK will encourage the operators of various premises (primarily restaurants and hotels) in which smoking is legal to accommodate the wishes of both smokers and non-smokers.

4. PREVENTING AND DISCOURAGING YOUTH SMOKING

4.1 Members of TAHK will not direct their marketing activities at those under the age of 18 and are committed to limiting communications about tobacco products to adult smokers only.

4.2 Members of TAHK strongly support the laws which prohibit the selling of tobacco products to minors. In addition to the penalties prescribed by law, retailers who are found guilty of contravening this provision will face sanction from members including the suspension of advertising and promotional support for a period of up to 6 months. Repeated offenders will be liable to termination of supply agreements with members or their distributors.

4.3 Members of TAHK are committed not to use artists or celebrities to promote tobacco products either in advertisements or promotional materials when such artists predominantly appeal to minors;

4.4 Members of TAHK are committed not to depict persons under 25 years of age or who appear to be under 25 years of age in advertisements or promotional materials; and

4.5 Members of TAHK are committed not to advertise or retail tobacco products in premises which are known to be frequented predominantly by those under 18, for example arcade games centres catering to children and toy shops.

5. ADVERTISING

Members of TAHK are committed not to:

5.1 Imply in advertisements that smoking may have any health properties.

5.2 Depict in tobacco advertisements that all persons or all those in a particular situation, are smokers or show exaggerated satisfaction from the act of smoking.

5.3 Imply in a tobacco advertisement that people who smoke will be successful, have a prominent or enviable status in the community or are especially attractive.

5.4 Depict in tobacco advertisements anyone smoking and participating in an event that requires physical stamina beyond that of normal recreation or employment.

5.5 Make any payment, direct or indirect, for the appearance of smoking in either a movie or a TV programme.

5.6 Install any tobacco advertisements and advertisements for the trademark of any tobacco products ("POSM") which measure in aggregate larger than one square metre upon the premises of retail dealers or upon the stalls or pitches of hawkers ("Display Space").*

6. PRICE BOARD AND PRICE MARKER

6.1 Members of TAHK agree that the size of the price board and price marker shall not exceed 1,500 cm² and 50 cm² respectively.

- * a) *The above restriction does not include any POSM that is:*
- i) *placed inside the premises of retail dealers;*
 - ii) *attached to the Display Space by such means that it can be removed without injury to the land or fabric of the Display Space (unless such POSM is displayed on any fixture that is erected specifically for display of such POSM on the Display Space or located above the ceiling line of the premises of retail dealers).*
- b) *The maximum size of one square metre shall include the statutory health warning but exclude the display area reserved for the name and other information of the retail dealers or hawkers.*

Annexure B

A copy of this document is kept at the Legislative Council Library.
Please contact the Legislative Council Library if you wish to refer to this document.

INTERNATIONAL TOBACCO PRODUCTS MARKETING STANDARDS

- The parties subscribing to these Standards (the "Participants") wish to record their belief that tobacco products should be marketed in a responsible manner and that reasonable measures should be taken to ensure that the promotion and distribution of tobacco products is:
 - directed at adult smokers and not at youth, and
 - consistent with the principle of informed adult choice.
- These Standards should be observed in both their letter and intent.
- In subscribing to these Standards, the Participants wish to encourage:
 - all others who manufacture or market tobacco products to join them as Participants; and
 - all others who are associated with the manufacture, sale, distribution or marketing of tobacco products to embrace the principles of these Standards.
- The practices of the Participants should not be less restrictive than these Standards unless required by law, but any more restrictive legal requirement or voluntary undertaking shall take precedence over these Standards.
- The Participants should incorporate these Standards into their own internal codes.
- The Participants intend to support the comprehensive incorporation of these Standards into national laws.
- These Standards do not apply to the relationship between Participants and their suppliers, distributors or other trade partners, although those parties are encouraged to comply with the Standards in any dealings they have with consumers.
- The Participants shall take reasonable measures to prevent third parties from using their tobacco product brand names or logos in a manner which violates these Standards.
- These Standards are not intended to prohibit the use of any trademarks as brand names or on packaging.
- A Participant shall comply with these Standards as quickly as possible, and in any event no later than 12 months from the date that it subscribes to the Standards or, where existing contractual provisions prevent earlier compliance, in any event by December 31, 2002, provided in all cases compliance is not in breach of relevant laws. The timetable for compliance with the Sponsorship Standards is set out in paragraphs 17 and 19.

Definitions

The following definitions are provided to assist in the interpretation of these Standards.

Term used in these Standards	Explanation
adult	A person who is at least 18 years old, except where legal requirements or voluntary undertakings entered into by the Participants specify a higher minimum age for the lawful sale, purchase, possession or consumption of tobacco products, in which case the term “adult” means a person of at least that minimum age.
advertisement	Any communication by or on behalf of a Participant to consumers which has the aim of encouraging them to select one brand of tobacco products over another.
promotional event	An event or activity organised by or on behalf of a Participant with the aim of promoting a brand of tobacco product, which event or activity would not occur but for the support given to it by or on behalf of the Participant.
sponsorship	Any public or private contribution to a third party in relation to an event, team or activity made with the aim of promoting a brand of tobacco product, which event, team or activity would still exist or occur without such contribution.
tobacco products	Manufactured cigarettes, cigars, cigarillos, pipe tobacco, fine cut tobacco, and pre-formed tobacco rolls.
youth	Any person who is not an adult. The term also includes the plural.

Content Standards

1. The following Content Standards are intended to cover all communications by or on behalf of a Participant to consumers which have the aim of encouraging them to select one brand of tobacco products over another. Certain communications associated with sponsorship activities are subject to separate requirements set out in paragraph 19.
2. No advertisement shall:
 - be aimed at or particularly appeal to youth
 - feature a celebrity or contain an endorsement, implied or express, by a celebrity

- depict any person under or appearing to be under 25 years of age
 - suggest that any of the following is enhanced by smoking:
 - sporting or athletic success,
 - popularity,
 - professional success, or
 - sexual success, or
 - suggest that most people are smokers.
3. All new advertisements published or disseminated after subscription to these Standards, including renewals and replacements of existing advertisements, shall contain a clearly visible health warning except those which:
- appear on point of sale material the advertising display area of which is smaller than 250 square centimetres,
 - are, either individually or in deliberate combination with other advertisements, smaller than 25 square centimetres and are placed on promotional merchandise, or
 - until December 1, 2006 are used at and connected with sponsored activities

Media Usage Standards

4. ***Print:***

- 4.1 No advertisement shall be placed in any printed publication unless there is a reasonable basis upon which to believe that
- at least 75% of the readers of such publication are adults, and
 - the number of youth who read it constitute less than 10% of all youth in the country of circulation.
- 4.2 No advertisement shall be placed on the packaging or outside cover of a magazine, newspaper or similar printed publication intended to be read by consumers.
- 4.3 Reasonable measures shall be taken to ensure that no advertisement is placed in printed publications adjacent to material that particularly appeals to youth.

5. ***Outdoor and Billboard:***

- 5.1 No advertisements shall be placed on any billboard, wall mural or transport stop or station which:
- is located closer than 100 metres from any point of the perimeter of a school attended predominantly by youth, or

- either individually, or in deliberate combination with other such advertisements, exceeds 35 square metres in total size.
6. **Cinema:** No advertisement shall be displayed in a cinema unless there is a reasonable basis upon which to believe that at least 75% of the audience are adults.
7. **Television or Radio:** No advertisement shall be placed on television or radio unless and until:
- (a) each person seeking access to the channel or programme on which such advertisement is placed provides verification that he or she is an adult, and
 - (b) the broadcast is restricted to countries where such advertisements are not prohibited by law.
8. **Internet:** No advertisement shall be placed on the Internet unless and until:
- (a) each person seeking access to the Internet site on which such advertisement is placed provides verification that he or she is an adult, and
 - (b) access is restricted to those countries where such advertisements are not prohibited by law.
9. **Video, Audio and Computer:** No electronic advertisement shall be incorporated within any video or audio cassette, compact disk, digital video disk or similar medium unless reasonable measures have been taken to ensure that the intended recipients of the item are adults.
- For the avoidance of doubt, Participants may distribute video or audio cassettes, compact disks, digital video disks and similar media provided that the contents, cover, packaging and means of distribution comply with these Standards.
10. **Product Placement:** There shall be no direct or indirect payment or contribution for the placement of tobacco products, advertisements or items bearing tobacco brand names, within the body of any:
- motion picture,
 - television programme,
 - theatrical production or other live performance,
 - live or recorded performance of music,
 - commercial film or video,

- video game, or
- any similar medium where such medium is intended for the general public.

Promotion and Event Standards

11. All activities and communications concerned with
 - promotional offers
 - promotional events
 - promotional items, or
 - sampling shall comply with the Content Standards.

12. **Promotional Offers**
 - 12.1 Promotional offers and programs for specific brands which appear on the package, at the point of retail sale, by mail or through other communications shall be directed only to adults and, unless prohibited by law, only to smokers.
 - 12.2 Reasonable measures shall be taken to ensure that youth and (unless prohibited by law) non-smokers are excluded from direct mailing lists.
 - 12.3 Participation in promotional offers by the general public will be conditional upon evidence of age eligibility and (unless prohibited by law) confirmation of smoker status.
 - 12.4 Where promotional offers permit an adult smoker to be accompanied by other persons at a third party event or in an activity, such other persons shall be adults.

13. **Promotional Events:** Each Participant shall ensure that only adults are allowed access to promotional events.

14. **Promotional Items:**
 - 14.1 No advertisements shall be placed on:
 - items where those particular items are marketed to, or intended to be used predominantly by, youth, or
 - shopping bags.
 - 14.2 No advertisement larger than 25 square centimetres - either on its own or in deliberate combination with other advertisements - shall be placed on any items (other than on items with a smoking-related function) which are to be sold, distributed or offered to the general public.

14.3 Any item of clothing which is offered for sale or distribution by or on behalf of a Participant shall only be offered in adult sizes.

15. **Sampling:** Reasonable measures shall be taken to ensure that:

- (a) sample tobacco products are not offered to youth or to non-smokers
- (b) samples are only offered in a segregated area access to which is restricted to adults
- (c) personnel employed directly or indirectly by Participants to offer sample tobacco products or to conduct promotional activities
 - (i) are at least 21 years of age, and
 - (ii) verify the age and (unless prohibited by law) smoker status of those to whom the samples and promotions are offered, and
- (d) unsolicited tobacco product samples are not distributed, either directly or through a third party, by mail.

Sponsorship Standards

Sponsored Events

16. No sponsorship shall be provided for:

- an event or activity which bears a tobacco product brand name, unless there is a reasonable basis upon which to believe that all persons who compete, or who otherwise take an active part, in the sponsored events or activities are adults, or
- a team or an individual which bears a tobacco product brand name, unless all persons sponsored by Participants are adults.

17. As from December 1, 2006, no sponsorship shall be provided unless:

- (a) there is a reasonable basis upon which to believe that attendance at the sponsored event or activity will comprise no less than 75% adults, and
- (b) there is a reasonable basis upon which to believe that the sponsored event or activity will not be of particular appeal to youth, and
- (c) the Participant does not anticipate that the sponsored event or activity will receive exposure, other than as a news item, on television or radio or the Internet, unless such exposure complies with these Standards, and
- (d) success in the principal activity associated with the sponsorship does not require above-average physical fitness for someone of the age group of those taking part.

Sponsorship Advertising

18. All individuals authorised to bear tobacco product advertisements, logos or brand names at sponsored events or activities shall be adults.
19. All forms of advertising associated with or ancillary to sponsorship shall comply with the provisions of these Standards. The following are excluded from these Standards until December 1, 2006:
 - on-site signage at sponsored events
 - incidental television and radio broadcasts of sponsored events
 - applications of trade marks or logos to people or equipment participating in sponsored events.

Packaging, Sales and Distribution Standards

20. Cigarettes shall not be sold or distributed to consumers in packages containing fewer than ten sticks.
21. Fine cut tobacco shall not be sold or distributed to consumers in pouches smaller than 10 grams.
22. No incentive or materials shall be provided to support the sale of cigarettes in single sticks.
23. All cigarette packs and all primary packaging for other tobacco products shall carry a clearly visible health warning.
24. All cartons and bundles offered for sale duty-free shall carry a clearly visible health warning.
25. Reasonable measures shall be taken to prevent youth having access to cigarettes in vending machines.

Youth access and minimum age restrictions

26. ***Youth Access:*** The Participants shall make sustained efforts, in co-operation with governments and other regulatory agencies, customers and others to prevent youth having access to tobacco products. They shall also seek ways in which to reinforce and give effect to measures that will prevent youth having access to tobacco products.
27. ***Minimum Age Restrictions:*** The Participants are committed to the enactment and enforcement of minimum age restrictions for the lawful sale or purchase of tobacco products in every country in which their tobacco products are sold. The Participants support efforts by appropriate authorities, manufacturers of tobacco products, distributors and retailers to ensure the effective enforcement of such restrictions.

Global Health Warnings on Tobacco Packaging: Evidence from the Canadian Experiment

Nikolay Gospodinov
Ian Irvine¹

Concordia University

August 2004

Abstract

New health warnings on tobacco packaging in Canada became mandatory in January 2001. As of that time producers were required to print large-font warning text and graphic images describing the health consequences of using tobacco. This study uses micro data from two waves of *Health Canada's* 'Canadian Tobacco Use Monitoring Surveys' bordering the legislation to investigate if the introduction of the warnings had any significant impacts on smokers. The recently drafted *Framework Convention on Tobacco Control*, under the sponsorship of the *World Health Assembly*, assigns a central role for this type of message. Our findings indicate that the warnings have not had a discernible impact on smoking prevalence. The evidence of their impact on quantity smoked is positive, though only at a relatively low level of confidence.

JEL Classification: I12, I18

¹ Corresponding Author: Ian Irvine, Department of Economics, Concordia University, Montreal, Quebec, Canada, H3G 1M8; E-mail: irvinei@vax2.concordia.ca. We are grateful to two anonymous referees for valuable comments and suggestions, Shelly Xia for excellent research assistance with the data, to Statistics Canada for their Data Liberation Initiative, which provided us with access to the Canadian Tobacco Use Monitoring Survey files, to Ann Golubowski of Concordia University for guiding us to them, and to Elizabeth Majewski of *Statistics Canada* for helping us in interpretative issues and for comments on an earlier draft. We are grateful to Brian Krauth for comments on a draft that was presented at the annual meetings of the *Canadian Economics Association 2003*, and to David and Tina Wolfson. Finally, we thank the *Social Sciences and Humanities Research Council* of Canada for supporting this research.

1. Introduction

The *World Health Assembly* adopted a *Framework Convention on Tobacco Control* (FCTC) in May 2003 that has as its objective the reduction of smoking worldwide. A key ingredient in this framework is the proposal that all signatory countries will mandate the printing of health warnings on tobacco packaging occupying at least 30 percent of the package space, and preferably 50 percent². This element in the *Framework* was supported and promoted by Canada, which was in the unique position of having had such a measure in operation since the end of 2000.

Despite the support expressed by organizations such as the *Canadian Cancer Society* and *Health Canada* for such warnings, until very recently there was no scientific research on their effectiveness. The evaluation of this policy measure forms the subject matter for this paper. We use individual-level data from the *Canadian Tobacco Use Monitoring Survey* (CTUMS) for the period July 2000 – June 2001 to examine if any changes in consumption have materialized. We are particularly interested in analysing whether the measure may have had differing impacts on the various age groups in the population, and accordingly we disaggregate our findings by age group. We also examine the possible differential impacts of the warnings on prevalence and intensity (consumption per person).

Numerous studies have addressed the effectiveness of tobacco-control and ‘messaging’ policies in recent decades. A key policy problem is the ability to distinguish between the impact of *particular control measures*, and the impact of *consumption reduction measures in the aggregate*, and this is demonstrated very clearly in two recent papers. Nelson (2003) concluded that advertising bans have had no impact on cigarette consumption, using panel data for a cross-section of countries. Farrelly, Pechacek and Chaloupka (2003) however found that, *in the aggregate*, US tobacco-control government expenditures, measured in both stock and flow form, over the period 1981-2000 have been effective in reducing consumption. Their finding is therefore broadly supportive of the array of measures introduced in states such as Arizona, California, Massachusetts and Oregon. While the latter findings are reassuring to both state governments and policy makers, there remains the challenge of trying to distinguish those specific measures that are effective from those that are not. Given the vast array of controls that are available to governments, and given that such measures may have very different associated costs, it is vital to be able to identify those policies that are most effective. ‘Carpet-bombing’ as a consumption-reduction strategy may be resource costly, and in addition leave the government vulnerable to legal action on the part of cigarette manufacturers. Indeed Farrelly *et al.* (2003) indicate that ‘unfortunately’ they did not have tobacco-control expenditure³ broken out by type of intervention. Our focus is upon an intervention at a particular point in time that came in the form of adding vivid text and visual image warnings to cigarette packaging. A sample of the images is given at Health Canada’s website http://www.hc-sc.gc.ca/english/media/photos/tobacco_labelling/.

² Other provisions include action against smuggling, maintaining prices sufficiently high to discourage consumption, protection from second-hand smoke, etc.

³ See their paper, page 849.

While the impact of specific messaging campaigns on consumer behaviour may be unsettled from an econometric standpoint, a considerable body of economic theory has been developed in the last few years that sees a useful role for messaging. In contrast to the rational addiction perspective of Becker and Murphy (1988) or Becker, Grossman and Murphy (1994); Laibson (1997), Gruber and Koszegi (2001), O'Donohue and Rabin (1999) and most recently Bernheim and Rangell (2002) have all independently provided rationales for government intervention in the market for 'sin' goods. Laibson proposes that individuals may systematically undervalue the future; Gruber and Koszegi examine the magnitude of taxes that might be required to correct for such 'internalities'; O'Donohue and Rabin propose that individuals may suffer from projection bias – an inaccurate depiction of their future utility. Bernheim and Rangell adopt a neuropsychological approach in which they propose that the neocortex – the control region or command centre of the brain – may make errors. Accordingly a 'cue' can be a socially productive corrective device. Lastly, recent neurological research on the physical development of the teenage brain (e.g. Strauch, 2003) proposes that it may not be sufficiently stabilized, particularly in the neocortex, for teenagers to make the decisions they would make several years later. Even in models of rational addiction, the implicit ineffectiveness of messaging is conditioned upon an assumption of full information. In each of these perspectives therefore, messages or cues are viewed as a means of potentially securing socially superior outcomes in the consumption of sin goods.

Our paper is developed as follows: in the next section we review briefly the recent trends in smoking in Canada among both adults and youth, and reference the numerous ambiguities that attend the available data and beliefs. We also describe the data used in our research. In the subsequent section we summarize the work that supported the health warning initiative in Canada. Finally we present and discuss our findings based on the estimation of prevalence and quantity consumed models. Our conclusion is twofold: first the *Health Canada/Statistics Canada* data do not indicate that prevalence declined in a significant manner following the introduction of the health warnings. Second, and in contrast, a substantial decline in intensity is observable, although it is significant at a relatively low confidence level.

2. The economic and policy environment in Canada

2.1 Interpreting recent trends

Taxation policy in Canada since the late nineteen eighties, as it has pertained to tobacco, has been somewhat chaotic. The enormous variation in tax levels at different points in time and across provinces is well documented and is not of prime interest to us here⁴. In contrast, on the regulation side, all levels of government have progressively implemented legislation that has restricted both the use of tobacco and the ability of tobacco manufacturers to market their products through sponsorship and advertising. This has come in the form of limitations on smoking in public places, in work environments, in restaurants and bars, school environs etc. Numerous legal battles have been fought on the constitutionality of these measures, with the tobacco industry arguing that specific

⁴ Most of the price variation is due to tax policy and is illustrated in figure 1.

elements of this program were ineffective and also infringed upon their freedom to operate a business. What has emerged over the last two decades, however, is a very strong long-term downward trend in tobacco sales in Canada⁵ as indicated in figure 2.

Unlike the clear long-term trend in total sales in Canada, the picture on youth smoking is more complex, and the focus upon youth has been central to the federal government's policy direction in the nineties. Indeed the formation of the continuous tobacco-use surveys now being carried out by *Statistics Canada* for *Health Canada* (CTUMS) was driven in large measure by a concern over youth smoking. The current wisdom is that smoking rates increased in the nineties and only finally began to turn downward at the end of the decade. A similar pattern is observable in the U.S. (Department of Health and Human Services, 2004). This characterization may be too simple however, for a variety of reasons:

- Use patterns for specific age groups must be inferred from surveys rather than from total sales data. Surveys on the use of toxic substances suffer from having low response rates, and even then from under-reporting. There are no publicly available longitudinal data at the time of writing.
- Unless similar surveys are implemented on a repeated basis, use patterns must be inferred from surveys with differing methodologies, objectives, questionnaires, response rate and rates of under-reporting. In Canada, the use rates from different surveys are frequently non-comparable on account of non-trivial variations in under-reporting rates (Gospodinov & Irvine, 2004)⁶. Therefore the establishment of shorter-term use patterns is problematic. Similar challenges have been described by Pepper (2001) in the interpretation of U.S. data.
- In determining prevalence rates among youth it is necessary to distinguish between the use patterns of different subcategories of user. For example, data from the *Ontario Student Drug Use Survey*⁷ indicate that the greater part of the measured reduction in prevalence among teen smokers in the early nineties was in the use rates of twelve and thirteen year olds, who tend to smoke very little, in the face of much more constant rates among older daily teen smokers. Moreover, those grade 7 - 9 students who are more than just samplers tend to smoke less than older students, and therefore there remains greater uncertainty as to whether they will transit to being long-term smokers or not.
- Confidence intervals, as well as reporting rates, may be seriously underestimated in surveys and therefore the comparison of outcomes from adjacent surveys becomes more challenging. For example, since individuals who do respond to surveys typically understate their consumption by 50 percent, then the reported variance may be significantly lower than the true variance of such survey results. Clearly the ability to make comparative statements is compromised.

⁵ See also sales figures from Statistics Canada's "The Production and Disposition of Tobacco Products in Canada."

⁶ For example, we have matched sales data with survey results for several years, and it appears that the 1994 Social Survey in Canada and the 1996/97 National Population Health Survey under predict by a smaller amount than several other surveys.

⁷ See Adlaf and Paglia (2001).

- Prevalence estimates, if not supported by estimates of amount smoked, may not be reliable predictors of the future behaviour of youth: policy measures may reduce the amount smoked by young smokers without seriously impacting prevalence. But a reduction in the amount smoked among users who are not yet addicted may itself reduce the likelihood of addiction in future time periods. Accordingly, the evaluation of a policy initiative should ideally include an estimate of its impact on quantity consumed in addition to its impact on prevalence.

In the face of these difficulties, and in the absence of longitudinal data, the availability of a series of CTUM survey waves with virtually identical methodologies, objectives and processing provides a fruitful basis for examining the package-warnings policy intervention.

2.2 Data

The data we use come from the public use files for two waves of the *Statistics Canada/Health Canada* CTUM survey – one immediately preceding the packaging intervention, one immediately following. The survey has information on a variety of economic, social and demographic covariates, as well as the province of residence and date of interview. We know if the individual is a smoker or not, whether s/he is an occasional or daily smoker, and also how much s/he smoked on each day of the preceding week. This survey is particularly appropriate for our objective, since it over-samples heavily in the lower age groups. Typically, about 25% of each six-month survey wave of 10,000 individuals is for those aged 15-19 and an equal proportion for those aged 20-24. We constructed a dollar price series for tobacco products from the monthly tobacco-price index for each province from CANSIM⁸ and dollar prices for cigarettes for November 2001 from the Department of Finance. The presence of province and date variables in the CTUMS data enables us to merge the constructed month- and location-specific tobacco-price series with the survey data.

3. The health warnings

The warnings that currently appear on consumer tobacco packages in Canada are undeniably gruesome. The required health warning labels are presented at Health Canada's website http://www.hc-sc.gc.ca/english/media/photos/tobacco_labelling/. They are all characterized by large-font vivid text messages and uncompromising images. Before implementing the warnings *Health Canada* contracted several pieces of research on the most appropriate packaging design. In the Environics studies (1999a,b) individuals were interviewed in 'focus' groups and were questioned on their likely reaction to different messages and graphic images. The reports by Créatec (1999) and Liefeld (1999) are more extensive. The main objective of the Créatec study was to determine the degree to which the size of warnings should have been increased from the then-existing '35% of package area' rule. The report proposed a '50% of area' rule. The Liefeld study used a conjoint method of analysis. This approach attempts to mimic the effect that actual

⁸ The Canadian Socio-economic Information Management System (CANSIM) II database series V735727 and subsequent series yield the monthly price indices by province for the period in question.

packaging warnings would have on consumers, or potential consumers, through the presentation of a series of pairs of ‘whole images’ – a combination of graphic image, message, and font-size/type. Each individual in the study was asked to choose from a series of pairs of packages the ones they found most striking. This *gestalt* process was then disaggregated at the end of the interviews to determine which components of the overall message were key and which were not.

The response of the federal government was to require that manufacturers use an image from those presented at http://www.hc-sc.gc.ca/english/media/photos/tobacco_labelling/, in conjunction with large-font warning text that would occupy 50% of the package space. This requirement was perhaps the most ambitious measure contained in the *Tobacco Products Information Regulations* of 2000.

The *Canadian Cancer Society* subsequently commissioned *Environics* to survey Canadians on their reactions to the measures. This survey was done by telephone in September and October 2001, and produced 2,031 usable responses, both smokers and non-smokers, from an initial 40,304 calls⁹. Individuals were asked if they had noted a change in packaging, if they learned anything more about the hazards of smoking, if they had been influenced in their smoking decisions by the presence of the new messages and images, if they were influenced in their attempt to quit, etc. Of those who noticed a change in packaging (62% of the population), about one third felt that they consequently knew either a lot or a little more about the health consequences of smoking; a slightly larger percentage indicated that they were more concerned about the consequences of smoking; 18 % of individuals decided upon one or more occasions not to have a cigarette on account of the messages in an 8-month period; 14 % of people responded that the messages were a major factor in their most recent attempt to quit.

As quantitative assessments of public policy measures, these responses/surveys are of limited value. They fail to provide a quantitative link between the measure and outcomes – in terms of prevalence or conditional quantity smoked. Moreover, it is methodologically more reliable to attempt an observation of actual behavioural responses than to ask the subject for his or her statement of response. Furthermore, data on teens below the age of 18 are not available and, in addition, given the degree of non-response, alternative data sources should be investigated before concluding that the experiment has been successful.

The econometric evidence on the effectiveness of messages/cues is limited. While there exists an enormous literature on the effectiveness of price/taxes as a corrective (see, for example, Gruber and Zinman, 2000), the literature on regulation, advertising and messaging is less extensive. It also tends to be ambiguous in its findings. In part this is because the impact of some interventions is staggered over time and therefore less easy to identify or isolate (Chaloupka and Warner, 2000, or McGuinness and Cowling, 1975). In contrast, the measure that we investigate is unusually well defined: regulations were implemented on a given date – January 2001, the messages were clear and stark and

⁹ The response rate was actually about 1 in 7 once business telephone numbers and other deletions were made from the sample.

significantly different from what preceded them, and relatively short time lags can reasonably be anticipated in their likely impact. The effectiveness of such a measure in reducing smoking should be discernible quickly; if consumers can successfully ignore the cue for the first few months of its presence, they will more likely be able to isolate themselves psychologically from it over a longer period. Consequently our focus is upon the five-month period February-June, 2001, which we compare with the period July-December, 2000, while controlling for price changes faced by consumers. We recognize that our tests are strongly conditioned on the timing mechanism. Indeed some psychologists have proposed that interventions initially may simply invoke a period of contemplation, which only subsequently leads to the taking of an action and, perhaps, reaction (for example, Prochaska and DiClemente, 1983). While our results cannot rule out such lagged impacts, we believe that it would be inaccurate to portray smokers as only entering a state of contemplation on a quit decision when confronted with a particular message in the modern era. Smoking surveys indicate that large percentages of the smoking population are in a constant state of quit contemplation. The real issue is not whether they can begin to think about quitting, it is whether they can be triggered into a state of action.

At the present time there appears to be just one scientific study on the impact of the warnings. Hammond *et al* (2003, 2004) use data from a survey of 413 adults, and conclude that individuals who processed the warnings in depth, or in whom the warnings induced a degree of fear, were more likely to quit, attempt to quit, or reduce consumption than individuals who were less affected by the warnings.

4. Results

4.1 Data samples and variables

The data from the July-December 2000 and the February-June 2001 waves of the CTUM survey were first merged. We then deleted observations where answers to key questions were not recorded. This resulted in a loss in sample size of approximately 2.5%, leaving us with 20,176 individuals, of whom 15,062 are non-smokers. Smokers in this sample are both daily and occasional. One important variable had a significant number of non-responses among this reduced population – income of the household in which the respondent resided. Rather than delete these records, we imputed¹⁰ the missing values using the weighted hot-deck imputation method¹¹ (Rubin and Schenker, 1986).

A dollar price series for tobacco products was then merged on a month/location correspondence. We decided against using a set of province-of-residence fixed-effect variables in the main set of results, although we also report on the impact of including

¹⁰ In an earlier version, we treated the group for whom income data were missing as a separate group by defining a dummy variable for households falling into this class. The numerical results are very similar to those presented below.

¹¹ This procedure matches the individuals with missing income data to the respondents using several socio-demographic characteristics such as age, occupation, education, gender, province and area (large metropolitan or not) of residence, language spoken at home etc. and then randomly selects observed values from the matching group using the weighted Bayesian bootstrap (Rubin and Schenker, 1986).

such identifiers. While cultural factors that are region-specific may be important, two factors mitigate against their inclusion: first, most of the variation in the price series in this short time period is across regions, and therefore there is a very strong degree of collinearity between the price series and the province dummy variables. But price is a policy variable and it is important to be able to estimate the sensitivity of use to variations in this variable. In the second instance, it is well known that certain identifiable ethnic and language groups have lower smoking propensities than others. For example, until very recently, Quebec (a predominantly francophone province) had the highest smoking rates of all provinces. In addition, the waves of immigrants coming to Canada since the nineteen seventies have been predominantly non-European, and have much lower smoking rates than Canada's European stock. But since these immigrants (and, to a much lesser degree, francophones) are spread throughout the provinces, the language spoken in the household provides a very precise measure of ethnicity and therefore social custom. Accordingly this variable is included in our regressions.

The age variable is augmented by a second series of student variables in our regressions. Students in a given age group tend to be different from non-students in that same group. For example it is well known that high-school dropouts have higher rates of tobacco use than those who stay in school. The youngest three age groups (15-17, 18-19, 20-24) therefore have an additional student identifier dummy variable.

The average smoking prevalence rates and weekly consumption per person in the sample by different (gender, language, education, age and income) groups and time (before and after the introduction of health warnings) periods are reported in table 1. The unconditional analysis reveals a reduction in the quantity smoked for all groups (except the 55-64 age group). The prevalence rates have also changed, though less convincingly. The next sections investigate if these reductions are statistically significant and if they result from the introduction of the health warnings in 2001. An alternative interpretation of the data is that the very substantive tax-induced price increases in the Spring of 2001 may account for a sizable part of the observed reductions.

For estimation of the smoking prevalence and quantity-consumed equations, we employ the two-part model of Cragg (1971). For a recent application of this model to the effectiveness of some price measures on youth smoking, see Ross and Chaloupka (2003). The first part of the model (smoking participation decision) is estimated by Probit and then the demand equation for smokers is estimated by an OLS regression of the log of number of cigarettes smoked per week on various determinants. The model is estimated on the pooled 2000-2001 data¹² with a weighting scheme that accounts for the stratified nature of the sample.

¹² In an earlier version of the paper, we also estimated the prevalence and intensity equations separately using Probit and Tobit estimators. It is well known that the properties of the Probit and Tobit estimators are sensitive to the strict parametric conditions that these models impose on the data. Consistent estimation can be obtained under weaker assumptions such as quantile independence which also allows for heteroskedasticity of unknown form. Results from binary (maximum score and smoothed maximum score of Manski, 1975; Horowitz, 1992; and Kordas, 2002), Tobit and censored (Powell, 1986; Buchinsky and Hahn, 1998) quantile estimation of the prevalence and quantity models are available from the authors upon request.

4.2 Results on smoking prevalence

The first set of results is based on the Probit estimator and the coefficients presented in table 2 are the marginal effects on the response probability and their standard errors. To test the hypothesis that smoking declined between the two periods as a result of introducing the health warnings, we include a ‘year/warnings’ dummy variable, taking a value of zero in the first period and a value of one in the second. If smoking prevalence indeed declined we anticipate a negative sign for this variable.

Three broad conclusions emerge from this first estimation: socio-demographic variables are highly significant as a group; the price variable is significant, and the warnings variable is not significant.

The socio-demographic variables indicate that more education, higher income, and a language other than French or English¹³ define individuals who are less likely to smoke. The negative signs on the student/age variables likewise indicate that individuals in the younger age groups who attend school are less likely to smoke. It is notable that the household income variable has separate explanatory power beyond the education variable, indicating that social background has an effect independent of the level of education. Smoking clearly decreases among the older age groups (in part because some of the heavy smokers die before reaching old age). The insignificant value on the sex variable indicates that smoking prevalence rates for males and females have converged in the modern era. The negative sign on the ‘large metropolitan area’ variable is consistent with a pattern of lower rates in large urban areas, although it is insignificant. The household size variable is picking up the effects of the presence of a spouse and children. We ran the model with a series of family-type dummy variables included, but observed that household size, as a continuous variable, was picking up essentially all of the explanatory power of different family structures.

The price coefficient is significant and its magnitude implies that the participation (prevalence) price elasticity is about -0.57 ¹⁴. A substantial body of work on price responsiveness continues to appear. For example, Ross and Chaloupka (2003) find significant price effects, while DeCicca *et al.* (2002) are more sceptical. The latter estimate the impact of price in an age-of-commencement model for youth, as do Kidd

¹³ The language result is consistent with the well-recognized smoking patterns among different ethnic groups: those of Asian, African and Caribbean origin have smoking prevalence rates of less than half those of Northern European origin (*Health Canada*, 1999).

¹⁴ After reestimating the model with provincial dummies included, the price effect becomes less significant (t-statistics of -1.67). This is as we anticipated, because much of the price variation in this short time period is cross-sectional. It is also to be noted that the case for introducing fixed effects to a Canadian data base is less convincing than for a US data base: De Cicca *et al.* (2002) point out that market prices (tax inclusive) may be endogenous in some US states. For example, tobacco-producing states, such as Virginia, the Carolinas or Kentucky, may be less inclined to impose excise taxes than more health conscious states such as Oregon or Massachusetts. Consequently, the tax-inclusive price differentials may be picking up unmeasured effects. But Canada has no tobacco-producing provinces, and we believe that cultural effects are well measured by the language variable that we include in our basic specification. In the model with fixed effects, the warnings dummy variable remained insignificant.

and Hopkins (2004), Forster and Jones (2001) and Douglas and Hariharan (1994), with similar outcomes. In this context, our price estimate is consistent with the available evidence from the cross-section, and is a little higher than the time-series estimates (see Gruber et al, 2004, for example).

The one policy measure that appears to be insignificant at this point is the year/warnings dummy. While it is negative, it is not significant and therefore the hypothesis that smoking rates remained the same over the period cannot be rejected on the basis of this specification and this set of results.

4.3 Results for quantity smoked

Despite the lack of support for the hypothesis that the health warnings reduced prevalence, the warnings may still have been effective if they reduced the quantity of cigarettes smoked by smokers. We have used the same set of explanatory variables as in the prevalence model, and similar coefficient patterns emerge on the individual-specific variables. In addition, the price variable is significant (price elasticity is -0.58), and males smoke significantly more than females. The key warnings variable indicates that the typical quantity consumed fell by slightly more than 2 cigarettes per week as of January 2001. This impact (approximately 9%) is large, but is statistically significant only at a low confidence level.

The econometric results provide us with one explanation for the inability of the warnings dummy to provide a convincing explanation for the reductions observed in the raw data: government tax policy drove up prices in the Spring of 2001, and this explains part of the observed reduction in consumption. Two further qualifications should also be kept in mind: first, there has been a secular decline in smoking during the last two decades in Canada. Gospodinov and Irvine (2004) estimate this to be in excess of 3% per annum. Accordingly, about one and one half of the estimated percentage point decline might be trend. Second, there is a possibility that seasonal variation in consumption is at play. Evans *et al.* (1999) found that workplace bans on smoking have reduced consumption in the US. If the very similar restrictions in Canada have had a comparable impact, this implies that individuals may consume more in the summer/vacation months than in the work months. Since the first wave of the data include the vacation months of July and August, and the second wave covers February-June, it is possible that the observed decline may include a vacation/workplace ban effect. When a sufficient number of waves of this survey become available we will be able to test this hypothesis.

4.4 Youth and non-youth estimates

Our next step was to investigate if the warnings may have been successful in reducing the consumption or prevalence of some specific groups. For example, the low significance on the warnings variable might reflect a successful impact upon one age group, but not on another. Since tobacco policy in Canada has focussed heavily upon youth in the last decade, an analysis by age group might therefore be enlightening. Moreover, if the warnings were effective in reducing youth prevalence or consumption, but not successful in reducing prevalence or consumption among older age groups, this would still signal a longer-term reduction in smoking with attendant health benefits. Accordingly we re-

estimated both the prevalence and quantity equations with a new set of dummy variables involving the interaction of the year/warnings dummy with age groups.

In these regressions we collapsed the age groups into three. The first contains teens aged 15-19, the middle group contains those aged 20-64, and the older group those aged 65 and over¹⁵. The results from the two-part model, reported in table 3, do not reveal any identifiable age effect of the warnings: in both the prevalence and quantity smoked equations the coefficients on the interaction of age and warnings failed to reach a high level of significance for any group¹⁶.

5. Conclusion

The data we have analyzed provide a limited set of answers to the question we posed at the outset: have the ‘heavy-duty’ warnings on cigarette packages in Canada had a significant impact on the prevalence or intensity of smoking in the period following their introduction? Our two-part estimator indicates that the answer to the first part of this question is negative – we have not been able to detect any significant prevalence effects, much as the unconditional data suggest.

The advocates of the effectiveness of the warnings point to the decline in prevalence among Canadian youth since the late nineteen nineties. However, this observation should be interpreted with care, since the prevalence patterns for teens are not always mirrored in the behaviour of those in the 20-24 age group.

On the intensity side, there is some evidence that the warnings have been influential, though the level of confidence that can be placed in this assertion is not very high. While the coefficient is large in absolute value, the 95% confidence band includes the zero value. At the same time, if such reductions signal a higher quit probability, as suggested by Falba *et al* (2004), then the longer term impact may be greater than the quantity reduction alone implies.

On each front, we suggest that the price increase has played some role, that trend factors are likely important, and that seasonality is an as-yet unexplored possibility. The last-

¹⁵ We have also estimated separate models for each age group. This allowed us to be more selective in picking covariates for the different age group models. The model for the young group (age 15-19), for instance, does not include college and university education. Given the interest in the price-responsiveness of youth smoking in the recent literature, some interesting findings emerge about the price sensitivity of the three age groups. The prevalence rate of the young group appears to be the least sensitive to price changes (price elasticity is -0.39 with a t-statistic of -1.56). Similar findings have been reported recently by DeCicca *et al.* (2002). The price elasticity for the middle-aged group is -0.49 and highly significant t-statistic of -2.95). Interestingly, the price-responsiveness of the old group is much larger, -1.07 with a t-statistic of -1.74 .

¹⁶ Ai and Norton (2003) argue that the magnitude of the interaction effect does not equal the marginal effect of the interaction term. We computed the interaction effect as suggested in Ai and Norton (2003) and the results confirmed the insignificance of the interaction effects. The t-statistics of the interaction term for the young age group, evaluated at all data points, vary between 0 and 0.25 (0 and 0.13) in the prevalence (intensity) equation and 0.1 and 0.6 (0 and 0.37) in the prevalence (intensity) equation for the old group.

mentioned should be testable with the availability of a sufficient number of CTUM survey waves. It is clearly an important issue in view of the importance assigned to warnings in the *Framework Convention for Tobacco Control*.

We also estimated the models in a way that allowed the impact of the warnings to vary by age group. But we could detect no difference in their impact on the young (age 15-19), the old (age>64) and the others (age 20-64).

The possible asymmetry of the warnings also raises interesting questions about the theory underlying the messaging and cues: our intensity results, mild as they are, suggest that the Viscusi view – according to which individuals are very well informed about the consequences of smoking, and therefore benefit little from further messaging – may not be an adequate description of behaviour. At the same time, if prevalence has not been affected, cue theory, projection theory, hyperbolic discounting and the theory of internalisation correction derive very limited support from our findings.

6. References

- Adlaf, E. and A. Paglia (2001) Drug Use Among Ontario Students: Findings from the Ontario Student Drug Use Survey, 1979-2001. *Centre for Addiction and Mental Health*.
- Ai, C. and E. Norton (2003) Interaction Terms in Logit and Probit Models. *Economics Letters*, vol. 80, 123-129.
- Becker, G. and K. Murphy (1988) A Theory of Rational Addiction. *Journal of Political Economy*, vol. 96(4), 675-700.
- Becker, G., M. Grossman and K. Murphy (1994) An Empirical Analysis of Cigarette Addiction. *American Economic Review*, vol. 84(3), 396-418.
- Bernheim, D. and A. Rangell (2002) Addiction, Cognition and the Visceral Brain. *Stanford University*, Department of Economics Working Paper.
- Buchinsky, M. and J. Hahn (1998) An Alternative Estimator for the Censored Quantile Regression Model. *Econometrica*, vol. 66, 653-671.
- Chaloupka, F. and K. Warner (2000) The Economics of Smoking. In: Cuyler AJ, Newhouse JP, editors, *Handbook of Health Economics*, Elsevier.
- Cragg, J.G. (1971) Some Statistical Models for Limited Dependent Variables with Application to the Demand for Durable Goods. *Econometrica*, vol. 39, 829-844.
- Créatec, Les Études de Marché (1999) Effects of Increasing the Area Occupied by Health Warnings on Cigarette Packages. Report prepared for *Health Canada*, Office of Tobacco Control. Ottawa.
- DeCicca, P., D. Kenkel and A. Mathios (2002) Putting out the Fires: Will Higher Taxes Reduce the Onset of Youth Smoking? *Journal of Political Economy*, vol. 110, 144-169.
- Department of Health and Human Services (2004) *Morbidity and Mortality Weekly Report*. Centers for Disease Control and Prevention, June 18.
- Douglas, S. and G. Hariharan (1994) The Hazard of Starting Smoking: Estimates from a Split-population Duration Model. *Journal of Health Economics*, vol. 13, 213-230.
- Duan, N. (1983) Smearing Estimate: A Nonparametric Retransformation Method. *Journal of American Statistical Association*, vol. 78, 605-610.
- Environics Research Group Limited (1999a) Focus Group Report Regarding Messages On Cigarette Package Slides and Flip-Tops.
- (1999b) Qualitative (Focus Group) Report Regarding Health Warnings Labels and Images On Cigarette Packages. Final Report to *Health Canada*, Ottawa.

----- (2001) Evaluation of New Warnings on Cigarette Packages. Prepared for *Canadian Cancer Society*.

Evans, W., M. Farrelly and E. Montgomery (1999) Do Workplace Smoking Bans Reduce Smoking? *American Economic Review*, vol. 89, 728-747.

Falba, T., M. Jofre-Bonet, S. Busch, N. Duchovny and J. Sindelar (2004) Reduction in Quantity Smoked Predicts Future Cessation among Smokers. *Addiction*, vol. 99(1),83-92.

Farrelly, M., T. Pechacek and F. Chaloupka (2003) The Impact of Tobacco Control Program Expenditures on Aggregate Cigarette Sales: 1981-2000. *Journal of Health Economics*, vol. 22, 843-859.

Forster, M. and A. Jones (2001) The Role of Tobacco Taxes in Starting and Quitting Smoking: Duration Analysis of British Data. *Journal of the Royal Statistical Society (Series A)*, vol. 164, 517-547.

Gilmore, J. (2000) Report on Smoking Prevalence in Canada, 1985 to 1999. *Statistics Canada* research report 82F0077XIE, Ottawa.

Gospodinov, N. and I. Irvine (2004) A 'Long March' Perspective on Tobacco Use in Canada. *Canadian Journal of Economics*, forthcoming.

Government of Canada (2001) The National Strategy: Moving Forward - The 2001 Federal Provincial Territorial Progress Report on Tobacco Control, Ottawa.

----- (2000) Tobacco Products Information Regulations, Ottawa.

Gruber, J. and B. Koszegi (2001) Is Addiction 'Rational'? Theory and Evidence. *Quarterly Journal of Economics*, vol. 116(4), 1261-1303.

Gruber, J., A. Sen and M. Stabile (2004) Estimating Price Elasticities when there is Smuggling: the Sensitivity of Smoking to Price in Canada. *Journal of Health Economics*, forthcoming.

Gruber, J., and J. Zinman (2000) Youth Smoking in the US: Evidence and Implications. *National Bureau of Economic Research*, Working Paper 7781.

Hammond, D., G. Fong, P. McDonald, R. Cameron and K. Brown (2003) Impact of Graphic Canadian Warning Labels on Adult Smoking Behaviour. *Tobacco Control*, vol. 12, 391-395.

----- (2004) Graphic Canadian Cigarette Warning Labels and Adverse Outcomes: Evidence from Canadian Smokers. *American Journal of Public Health*, vol. 94, 1442-1445.

Health Canada (1999) Towards a Healthy Future: A Study based on the *National Population Health Survey*, Ottawa.

Horowitz, J.L. (1992) A Smoothed Maximum Score Estimator for the Binary Response Model. *Econometrica*, vol. 60, 505-531.

Kidd, M. and S. Hopkins (2004) The Hazards of Starting and Quitting Smoking: Some Australian Evidence. *Economic Record*, vol. 80, 177-192.

Kordas, G. (2002) Smoothed Binary Regression Quantiles. Working paper, University of Pennsylvania.

Laibson, D. (1997) Golden Eggs and Hyperbolic Discounting. *Quarterly Journal of Economics*, vol. 112, 443-77.

Liefeld, J. (1999) The Relative Importance of the Size, Content & Pictures On Cigarette Package Warning Messages. Report prepared for *Health Canada, Office of Tobacco Control*, Ottawa.

Manski, C.F. (1975) Maximum Score Estimation of the Stochastic Utility Model of Choice. *Journal of Econometrics*, vol. 3, 205-228.

McGuinness, T. and K. Cowling (1975) Advertising and the Aggregate Demand for Cigarettes. *European Economic Review*, vol. 6, 311-328.

Nelson, J. (2003) Cigarette Demand, Structural Change, and Advertising Bans: International Evidence, 1970-1995. *Contributions to Economic Analysis*, BEPress, vol. 2, no. 1, article 10.

O' Donohue, T. and M. Rabin (1999) Doing it Now or Later. *American Economic Review*, vol. 89(1), 103-124.

Pepper, J.V. (2001) How Do Response Problems Affect Survey Measurement of Trends in Drug Use? Appendix D in *Informing America's Policy on Illegal Drugs: What We Don't Know Keeps Hurting Us* (C. Manski, J. Pepper, and C. Petrie, eds.). National Academy of Sciences, Washington, D.C., 321-348.

Powell, J.S. (1986) Censored Regression Quantiles. *Journal of Econometrics*, vol. 32, 143-155.

Prochaska, J. and C. DiClemente (1983) Stages in Processes of Self-change of Smoking: Toward an Integrative Model of Change. *Journal of Consulting and Clinical Psychology*, vol. 3, 520-8.

Ross, H. and F. Chaloupka (2003) The Effect of Cigarette Prices on Youth Smoking. *Health Economics*, vol. 12, 217-230.

Rubin, D. and N. Schenker (1986) Multiple Imputation for Interval Estimation from Simple Random Samples with Ignorable Nonresponse. *Journal of American Statistical Association*, vol. 81, 366- 374.

Statistics Canada. The Production and Disposition of Tobacco Products in Canada. Ottawa.

Strauch, B. (2003) *The Primal Teen*. Doubleday, New York.

Table 1: Average prevalence (in %) and weekly consumption (# of cigarettes per person) by groups.

	Year 2000			Year 2001		
	# obs.	prevalence	quantity	# obs.	prevalence	quantity
Whole sample	9729	25.0 (0.9)	24.2 (1.1)	10447	23.4 (0.9)	22.1 (1.1)
Male	4512	25.4 (1.3)	28.4 (1.9)	4824	25.0 (1.3)	26.4 (1.8)
Female	5217	24.7 (1.3)	20.1 (1.3)	5623	21.8 (1.2)	17.9 (1.3)
Language English	8024	24.7 (1.1)	22.8 (1.2)	8689	24.1 (1.1)	22.0 (1.3)
Language French	1186	28.3 (2.0)	31.0 (2.9)	1195	25.7 (1.9)	27.2 (2.6)
Language English & French	113	38.1 (8.2)	50.8 (17.3)	110	17.2 (5.5)	19.4 (7.5)
Language Other	406	15.8 (3.4)	10.9 (4.1)	453	13.3 (2.9)	10.0 (2.6)
Education < high school	3207	29.2 (1.9)	31.9 (2.8)	3611	27.3 (1.7)	30.3 (2.7)
Education high school	4248	28.6 (1.4)	26.7 (1.7)	4421	25.9 (1.4)	24.0 (1.7)
Education college	1052	25.8 (2.7)	22.8 (2.9)	1183	23.2 (2.5)	18.6 (2.5)
Education university	1222	12.6 (1.5)	11.8 (2.1)	1232	13.6 (1.7)	10.9 (1.7)
Age 15-17	1613	19.8 (1.8)	12.0 (1.6)	1822	19.1 (1.6)	10.9 (1.7)
Age 18-19	1026	31.2 (2.4)	22.2 (2.3)	1053	30.5 (2.5)	21.8 (2.3)
Age 20-24	2183	32.0 (1.6)	26.0 (1.7)	2338	34.0 (1.7)	24.2 (1.6)
Age 25-34	982	29.0 (2.4)	27.0 (2.7)	1086	26.2 (2.4)	22.7 (2.6)
Age 35-44	1259	32.3 (2.3)	32.9 (2.9)	1337	26.0 (2.1)	27.2 (2.8)
Age 45-54	1008	23.8 (2.3)	26.3 (3.1)	1092	24.8 (2.4)	25.5 (2.9)
Age 55-64	707	18.0 (2.6)	20.2 (3.9)	727	17.7 (2.6)	22.4 (4.0)
Age >64	951	11.9 (2.0)	11.6 (2.1)	992	12.2 (1.9)	12.0 (2.6)
Income low	1703	33.3 (2.5)	30.2 (2.8)	1831	30.0 (2.3)	28.6 (2.7)
Income low-middle	2257	32.0 (2.1)	34.7 (2.9)	2521	27.0 (1.8)	27.9 (2.7)
Income middle	1254	27.4 (2.5)	22.7 (2.6)	1384	20.4 (2.2)	21.2 (2.9)
Income mid-high	563	22.8 (3.2)	20.8 (3.1)	685	22.3 (3.1)	17.8 (2.9)
Income high	435	15.6 (2.7)	17.2 (3.2)	607	21.9 (3.2)	19.4 (3.5)
Income unrecorded	3517	18.0 (1.4)	17.1 (1.8)	3419	20.3 (1.6)	17.7 (1.9)

Note: Robust standard errors in parentheses.

Table 2: Results on smoking prevalence and intensity (weekly consumption).

	Smoking Prevalence				Smoking Intensity			
	Marg. Effect	Std. Error	95% Conf. Interval		Marg. Effect	Std. Error	95% Conf. Interval	
Year/warnings dummy	-0.0034	0.0129	-0.0287	0.0214	-2.160	1.495	-5.090	0.790
Large metropolitan area	-0.0047	0.0129	-0.0292	0.0214	-1.356	1.476	-4.181	1.667
Male	0.0195	0.0124	-0.0052	0.0435	6.539	1.163	4.307	8.872
Language English	-0.0198	0.0527	-0.1197	0.0841	-4.982	6.829	-16.23	9.765
Language French	-0.0273	0.0498	-0.1375	0.0575	-3.431	5.476	-14.52	6.681
Language English & French								
Language Other	-0.1264	0.0425	-0.2268	-0.0613	-23.15	4.964	-33.76	-14.48
Education < high school	0.2349	0.0234	0.1884	0.2794	30.20	2.443	25.28	34.73
Education high school	0.1564	0.0200	0.1178	0.1962	18.94	1.956	15.13	22.74
Education college	0.1205	0.0290	0.0640	0.1779	17.03	3.343	10.04	23.34
Education university								
Income low	0.0613	0.0259	0.0088	0.1089	8.898	2.809	3.348	14.34
Income low-middle	0.0585	0.0243	0.0098	0.1049	6.534	2.650	1.269	11.62
Income middle	0.0191	0.0261	-0.0346	0.0670	3.297	2.987	-2.700	8.949
Income mid-high	0.0263	0.0297	-0.0340	0.0821	2.231	3.472	-4.928	8.864
Income high								
Age 15-17	0.1730	0.0352	0.1023	0.2409	7.722	4.120	-0.422	15.72
Age 18-19	0.3013	0.0318	0.2367	0.3633	22.61	3.207	16.15	28.79
Age 20-24	0.2898	0.0274	0.2356	0.3421	23.05	2.809	17.47	28.51
Age 25-34	0.2987	0.0312	0.2394	0.3610	27.16	3.179	20.75	33.27
Age 35-44	0.3053	0.0305	0.2451	0.3646	31.88	3.036	25.83	37.64
Age 45-54	0.2489	0.0318	0.1869	0.3112	27.34	3.352	20.76	33.69
Age 55-64	0.1261	0.0343	0.0568	0.1920	16.66	3.780	9.21	23.77
Age >64								
(Age 15-17)*(student)	-0.1699	0.0501	-0.2746	-0.0766	-25.27	5.862	-37.00	-14.01
(Age 18-19)*(student)	-0.1542	0.0374	-0.2299	-0.0870	-19.08	3.912	-26.99	-11.92
(Age 20-24)*(student)	-0.1691	0.0259	-0.2187	-0.1194	-22.79	2.750	-28.03	-17.33
Household size	-0.0232	0.0057	-0.0342	-0.0121	-3.595	0.630	-4.786	-2.307
Price	-0.0037	0.0009	-0.0056	-0.0018	-0.356	0.106	-0.568	-0.160

Note: The omitted category is designated by a zero entry in the table. Each coefficient on a dummy variable is then interpretable as the effect of being in one specific category relative to the omitted category. (x)*(y) denotes the interaction of variables x and y. The reported results are from a two-part model (Cragg, 1971). The smoking prevalence equation is estimated by Probit and the smoking intensity (the log of quantity smoked only for smokers) is estimated by OLS. The predicted values in the smoking intensity equation are retransformed into levels using Duan's (1983) smearing estimator. The reported marginal effects are the averages of the marginal effects at each observation. The marginal effects for dummy variables are computed with the dummy variable turned on and off. The marginal (interaction) effects for the interaction terms are computed as a double difference (see Ai and Norton, 2003). The marginal effects for the intensity (quantity) equation are averages of the sum of the derivative of probability to smoke multiplied by the conditional expectation of quantity smoked and the derivative of smoking intensity multiplied by probability of smoking. The standard errors and 95% confidence intervals (percentile method) are obtained by bootstrap (data resampling) using 1,999 replications. All computations are performed in GAUSS.

Table 3: Results on smoking prevalence and intensity (weekly consumption) by age groups.

	Smoking Prevalence				Smoking Intensity			
	Marg. Effect	Std. Error	95% Conf. Interval		Marg. Effect	Std. Error	95% Conf. Interval	
Year/warnings dummy	-0.0049	0.0113	-0.0264	0.0182	-2.322	1.375	-4.927	0.457
Large metropolitan area	-0.0036	0.0127	-0.0281	0.0219	-1.818	1.469	-4.683	1.190
Male	0.0209	0.0130	-0.0041	0.0463	6.402	1.225	4.022	8.866
Language English	-0.0247	0.0523	-0.1211	0.0788	-6.199	6.992	-18.07	9.011
Language French	-0.0320	0.0485	-0.1422	0.0518	-5.113	5.402	-16.24	4.681
Language English & French								
Language Other	-0.1275	0.0402	-0.2173	-0.0628	-22.80	4.770	-33.56	-14.81
Education < high school	0.2177	0.0231	0.1704	0.2629	27.26	2.439	22.24	31.78
Education high school	0.1598	0.0198	0.1207	0.1999	18.05	1.956	14.27	22.00
Education college	0.1327	0.0283	0.0756	0.1874	17.08	3.320	10.29	23.34
Education university								
Income low	0.0631	0.0249	0.0127	0.1130	8.178	2.681	2.640	13.44
Income low-middle	0.0604	0.0234	0.0141	0.1064	6.471	2.530	1.425	11.33
Income middle	0.0167	0.0250	-0.0354	0.0645	3.070	2.878	-2.947	8.690
Income mid-high	0.0291	0.0296	-0.0303	0.0871	2.778	3.362	-3.982	9.269
Income high								
Young Age Group 15-19	0.0663	0.0230	0.0215	0.1112	2.560	2.631	-2.687	7.792
Middle Age Group 20-64								
Older Age Group >64	-0.1774	0.0138	-0.2052	-0.1508	-17.33	2.303	-21.94	-12.95
(Young 15-19)*(student)	-0.1722	0.0249	-0.2208	-0.1242	-26.95	3.077	-32.96	-20.88
(Young Age 15-19)*(year)	0.0045	0.0260	-0.0450	0.0534	0.090	3.113	-5.804	6.126
(Older Age 64>)*(year)	0.0107	0.0269	-0.0443	0.0629	0.795	4.247	-7.239	9.434
Household size	-0.0152	0.0056	-0.0261	-0.0043	-3.344	0.636	-4.560	-2.031
Price	-0.0035	0.0009	-0.0054	-0.0017	-0.342	0.108	-0.566	-0.140

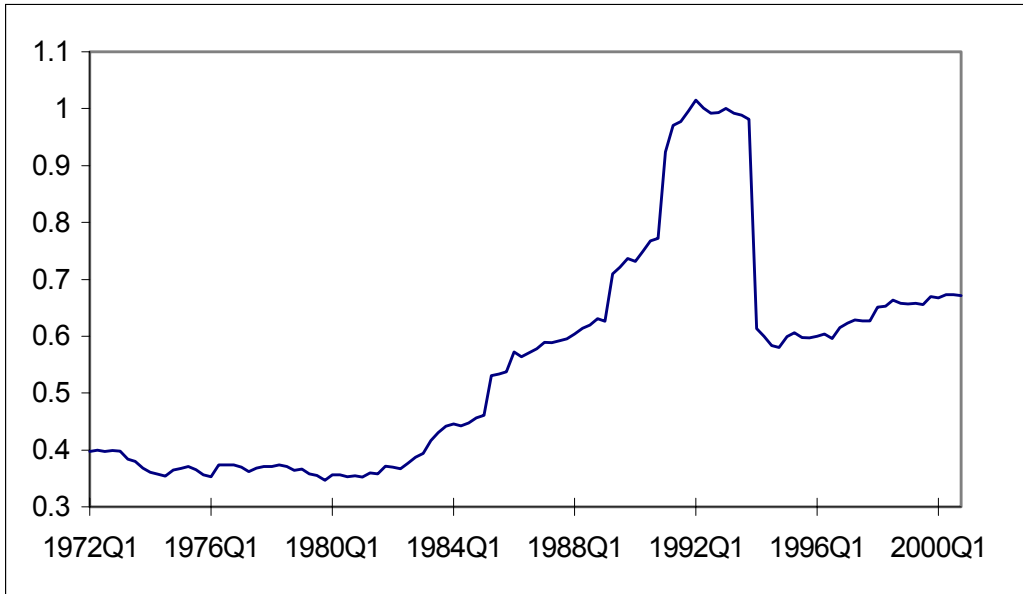
Note: See Note to Table 2.

Table 4. Prevalence of smoking by age group from surveys (in percent).

	Current smokers (daily & occasional)				Daily smokers	
	Age 15-19	Age 20-24	Age 25-44	Age 45+	Age 15-19	Age 20-24
General Social Survey, 1985	26.6 (3.9)	42.7 (3.7)	38.9 (1.8)	35.5 (2.6)	20.2 (3.6)	35.0 (3.6)
General Social Survey, 1991	22.6 (3.7)	39.7 (4.1)	35.8 (1.7)	30.0 (2.2)	16.2 (3.3)	27.6 (3.5)
Survey of Smoking in Canada, 1994	29.1 (2.3)	39.8 (2.7)	35.0 (3.2)	29.0 (3.8)	18.6 (1.9)	29.7 (2.7)
National Pop Health Survey, 1994/95	28.5 (3.6)	35.5 (3.4)	36.6 (1.5)	28.7 (1.7)	19.7 (3.2)	28.6 (3.2)
General Social Survey, 1996	25.2 (4.0)	35.7 (4.6)	32.2 (1.9)	24.5 (2.1)	20.2 (3.6)	30.1 (4.4)
National Pop Health Survey, 1996/97	29.1 (2.9)	35.0 (2.9)	33.4 (1.0)	26.4 (1.4)	22.0 (2.5)	28.1 (2.9)
Can Tob Use Monitoring Survey, 1999	28.1 (2.8)	33.7 (3.8)	30.0 (3.6)	20.8 (3.7)	19.3 (2.2)	27.5 (3.0)
Can Tob Use Monitoring Survey, 2000	26	33	29	18	17	25
Can Tob Use Monitoring Survey, 2001	23	34	26	20	16	24
Can Tob Use Monitoring Survey, 2002	22	31	24	17	16	24

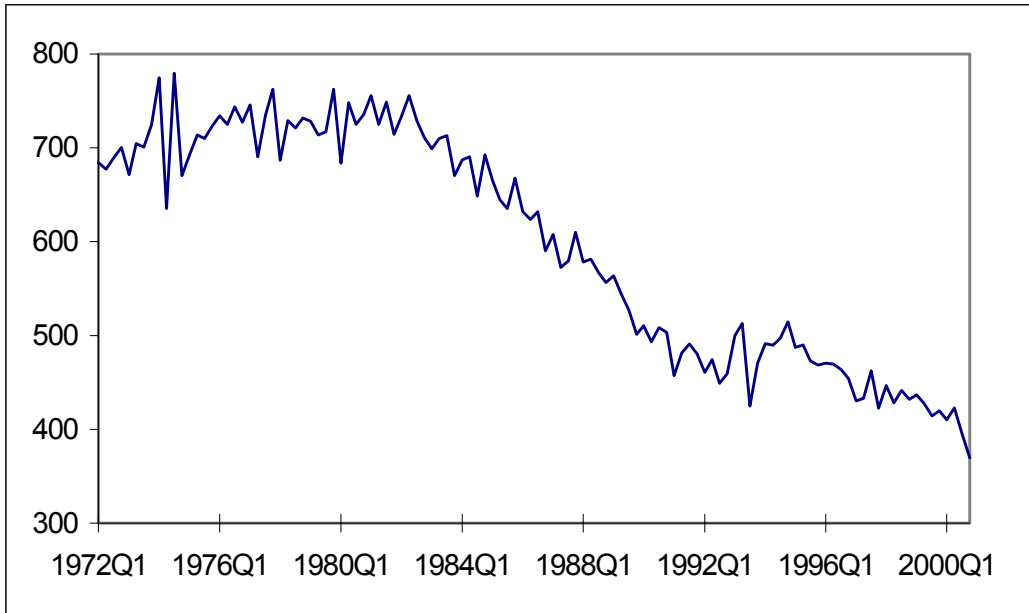
Source: Gilmore (2000, tables 1 and 4) and CTUMS (Wave 1, February - June) summary tables. The number in parentheses is the width of the 95% confidence interval. The point estimate is the mid-point of the confidence interval.

Figure 1. Real price of cigarettes in Canada.



Source: Canadian Socio-economic Information and Management Database (CANSIM).

Figure 2. Sales of cigarettes per person in Canada (seasonally adjusted).



Source: Canadian Socio-economic Information and Management Database (CANSIM).

**COMMENTS ON HOW SOME RESEARCH STUDIES AND
SURVEYS RELATING TO CIGARETTE PACK HEALTH
WARNINGS HAVE BEEN USED IN RECENT TOBACCO
REGULATION PROPOSALS**

SCIENTIFIC CRITIQUE PRODUCED IN FEBRUARY 2005 BY:

DR MIKE DIXON

**SENIOR SCIENTIFIC ADVISOR
BRITISH AMERICAN TOBACCO
LONDON UK**

This document provides an indication of how some of the research studies and surveys on cigarette pack health warnings have been recently used by Regulatory Authorities and Tobacco Control ‘experts’ to support proposed changes in health warnings. These changes primarily include increasing the size of warnings and the inclusion of graphic health warnings.

1. WHAT IS THE RATIONALE FOR HAVING HEALTH WARNINGS ON TOBACCO PRODUCT PACKAGING?

Research into tobacco control issues reveals two main functions of health warnings on tobacco products:

- a) To produce a high degree of awareness amongst existing and potential tobacco users of the serious health problems associated with tobacco use.
- b) To produce changes in smoker behaviour e.g reduced smoking initiation, increase smoking cessation, and reduced consumption rates in continuing smokers.

One example of a health authority position on the role of health warnings is shown in the following extract taken from the New Zealand Ministry of Health 2004 consultation document on the review of tobacco regulations¹:

- *“The use of tobacco is unequivocally linked with potential health problems and the majority of governments in the world have implemented a ‘right to know’ approach to this public health issue. This approach is closely linked to that of people being able to make an informed choice over their smoking behaviour. No citizen should be in a position of not having known the possible health consequences of smoking”*
- *“health warnings are concrete evidence of governmental opposition to smoking, and complement other health activities”*
- *“warnings form part of an overall strategy to educate people about the health hazards associated with smoking and to encourage behavioural changes”*
- *“health warnings have the potential to influence or cause a change in smoking behaviour.”*

Kaiserman et al (2003)² from Health Canada produced a similar rationale for the use of health warnings. They claimed that the primary objective of health warnings was to inform consumers of the hazards of tobacco use, and the secondary objectives were to a) encourage cessation, b) reduce consumption, and c) encourage avoidance of the use of tobacco products where they can harm others.

Thomson et al (2004)³, from the Wellington School of Medicine claimed that health warning labels have an additional role, that is to displace space available on the cigarette pack for product marketing.

2. HOW CAN THE EFFECTIVENESS OF HEALTH WARNINGS BE MEASURED?

With regard to assessing the effectiveness of tobacco package health warnings it is feasible to determine the extent of the knowledge consumers have about smoking and health issues. For example, one can conduct surveys and ask smokers if they agree or disagree that smoking is a cause of a variety of diseases. Repeat surveys can be conducted following changes in the size, form or wording of health warnings on packs to determine whether the warning changes are associated with a change in the knowledge of consumers about smoking and health issues. However, determining whether a change in health warnings causes a direct change in smoking behaviour e.g. increased quit rates, reduced cigarette consumption etc is more complex. Indeed, Barwick (1995)⁴ conducted a review for the New Zealand MoH on the effectiveness of tobacco health warnings, and he concluded that **it was not possible to establish any direct relationship between the provision of health warnings and changes in actual smoking behaviour**. Additionally, Barwick argued that the relationship between health warning information and subsequent behaviour is complex as other sources of information can influence and change behaviour. Gospodinov and Irvine (2004)¹² reported that many tobacco control initiatives are frequently in place simultaneously, thus it is extremely difficult to distinguish those control measures that are effective in changing smoking behaviour from those that are ineffective. They also stressed that there is a lack of data from publicly available longitudinal surveys using the same methodologies before and after the implementation of a tobacco control policy e.g. the introduction of GHWs.

One other approach used extensively in tobacco health warning research is a discipline called ‘attitudinal research’. With this approach focus groups are confronted with modified health warnings and are asked whether these warnings would modify their attitudes to quitting smoking or smoking less etc. Much of the focus group research conducted for Health Canada prior to the introduction of graphic health warnings, and more recently by the Australian Dept of Health and Ageing was of this type. These studies are reviewed in Appendix A.

The reliance on attitudinal research has been heavily criticised by Liefeld (1999)⁶ from the University of Guelph in Canada. In his report to Health Canada, Liefeld makes the point that asking consumers questions about beliefs, attitudes and intentions of each proposed health message **is not a valid method** of measuring the potential impact of messages on the future **behaviour** of consumers. In other words what consumers say they will do as a result of a change in health warnings may not be the same as what they actually do in practice. Liefeld describes two types of data; **type one** - measures the actual behaviour of individuals or groups, and **type two** - measures psychological states such as thoughts, feelings, beliefs, opinions etc which may not exist until a question is asked. Liefeld argues that relying on type two data without corroborating type one data is a **non sequitar and a misuse of evidence**.

3. CANADIAN RESEARCH PRIOR TO THE LAUNCH OF GRAPHIC HEALTH WARNINGS

Health Canada commissioned a number of research studies aimed at assessing the 'effectiveness' of changing the content and size of health warnings. These included evaluations of graphic health warnings. Some of the Health Canada studies are cited by tobacco control activists and tobacco regulators as evidence of the effectiveness of increasing the size of health warnings and the inclusion of graphic images. A review of the pre launch studies conducted for Health Canada is contained in Appendix A.

Two of the studies commissioned by Health Canada (Liefeld 1999⁶ and Nilsson 1999⁷) are frequently cited in tobacco control documents. These claimed that increasing the size of the warnings and the use of colour pictures improves the 'effectiveness' of the warnings. It should be stressed that 'effectiveness' was not determined by monitoring actual behaviours of smokers (e.g. quitting rates etc) but was determined from a conjoint analysis study (Liefeld 1999⁶) or attitudinal study (Nilsson 1999⁷). Thus these studies do not provide any 'hard' evidence of the behavioural effects of modifying health warning labels by, for example, using graphics. It should also be mentioned that the results from the Liefeld study indicated that neither the size of the warning nor the use of graphic images were the main factors believed to influence whether a smoker will quit or a non-smoker may start smoking. The main factor was the message content. This point is frequently missed in tobacco control documents.

The Nilsson 1999 study concluded that a number of inter-related factors such as size, colour etc, impact on the legibility or visual effectiveness of the health warnings. It is frequently cited in support of increasing the size of health warnings. Nilsson looked at the effect of health warning size on the legibility of the warnings. The study conducted in Canada used 14 undergraduates all having 20/20 vision. They were given a series of cigarette pack mock-ups incorporating graphic health warnings covering 60 percent, 50 percent and 40 percent of the front of packs. In addition, two of the then current Canadian text warnings (33 percent of pack area) were tested. The pack images were presented to the assessors using a system which gradually moved the pack away from the respondent. Each respondent had to identify the point at which the pack was no longer clearly legible. The distance from that point to the respondent was measured as an index of legibility, with a higher distance representing a higher degree of legibility. Although the results showed that graphic warnings covering 60 percent of the pack had a higher legibility than the then current text warnings one needs to question the relevance of these findings. For example the most 'legible' warning was a 60 percent graphic about smoking causing strokes, and this used 7mm letters. This could be read at an average distance of 387cm from the observer (i.e. more than 12 feet away). The 1999 Canadian text warnings (33 percent of front of pack and 4mm letters) could be clearly read at a distance of 282 cm (i.e. around nine feet away). Thus no-one can realistically argue that this effect would make any difference to the ability of people to read health warnings each time they open their cigarette packs. Indeed, Nilsson commented that the least legible warnings (223cm distance) could be readable at 40cm by people with uncorrected vision as poor as 120/20.

A report prepared for the European Commission by the FOA, Defence Research Establishment in Stockholm (dated June 1997)⁸ set out the results of research into the contrast, legibility, typography and character size of health warnings on cigarette

packs on sale at the time in Sweden (where like the rest of the European Community, with the exception of the UK (six percent), warnings were required to cover four percent of the relevant surface of the pack). Whilst the report concluded that a number of brands did not meet the American National Standards Institute ("ANSI") recommendations on contrast, most brands fulfilled the ISO recommendations on contrast and contrast ratio. Most importantly, the vast majority of brands fulfilled the ANSI recommendations of legibility.

As stated in the following quote from the Australian Centre for Behavioural Research in Cancer⁹ visibility and legibility are two important aspects of an effective health warning:

“... health warnings need to be noticed, persuasive and provide guidance for appropriate action. To be noticed, health warnings need to stand out from the surrounding pack design and they need to be large enough to be read easily. To be persuasive, the warnings need to be understood, believed and judged to be personally relevant”

However, based on the findings of Nilsson 1999⁷ and the FOA⁸, the current size of health warnings in many regions e.g., EU, New Zealand, Australia etc clearly fulfil all requirements on visibility and legibility.

4. CANADIAN RESEARCH POST THE LAUNCH OF GRAPHIC HEALTH WARNINGS (GHWS)

There have been a number of studies or surveys on smoking behaviour and attitudes towards smoking and health issues conducted in Canada following the launch of GHWs in January 2001. These include the following:

- a) **The Environics ‘Wave’ surveys** - Health Canada commissioned an organisation called Environics Research to conduct a series of surveys (called the ‘Wave’ surveys) aimed at addressing knowledge of the health effects of smoking among smokers and non-smokers and attitudes towards quitting smoking etc. A baseline survey was conducted in 2000 (prior to the introduction of GHWs in January 2001) and follow-up surveys were conducted periodically after the introduction of GHWs. The same methodologies were used in the baseline and follow-up surveys. Consequently the Wave surveys provide an opportunity to examine smoking behaviour trends and awareness levels of smoking and health issues before and after the introduction of GHWs.
- b) **Canadian Cancer Society 2001 study¹** – This Society commissioned Environics Research to conduct a consumer survey on the knowledge of smoking and health issues and the role of health warnings. The survey was conducted after the GHWs had been launched in Canada. Unfortunately, there was no base-line (pre GHW) survey and the methodologies and questionnaires used in the Canadian Cancer Society survey were very different to those used in the Health Canada sponsored ‘Wave surveys’. Consequently, this study cannot be used to directly compare behaviour and awareness etc before and after the introduction of GHWs.

- c) **A presentation by Murray Kaiserman of Health Canada given at the 2003 WHO Helsinki meeting²** – This was a brief review of the Environics Wave surveys conducted for Health Canada before and after the introduction of GHWs in Canada.
- d) **A publication in the journal Tobacco Control by Hammond et al (2003)¹³** – This was based on two surveys conducted amongst Canadian smokers in late 2001/ early 2002. The surveys attempted to relate the depth of processing the new GHWs by smokers with changes in their smoking behaviours e.g cessation attempts and changes in cigarette consumption.
- e) **A publication by Gospidinov and Irvine (2004)¹²** in the journal Topics in Economic Analysis and Policy – This analysed Canadian smoking behaviour data obtained as part of the Canadian Tobacco Use Monitor Surveys (CTUMS) before and after the introduction of GHWs to determine whether the introduction of GHWs had an impact on smoking prevalence and daily cigarette consumption.
- f) **A presentation by Fong et al (2004)¹⁷** given at the Society for Nicotine and Tobacco Research 2004 meeting – this presentation compared the attitudes of smokers to various forms of health warnings including the Canadian GHWs.

One example of how these research studies have been used for tobacco regulation is contained in New Zealand MOH Consultation Document¹. On page 24 the Consultation Document states:

*“Health Canada commissioned a series of surveys in late 2000 to establish baseline data in relation to newly required pictorial warnings before they began appearing in the market (Environics 2001a). In September/October 2001 a survey of 2031 people, including 633 smokers, **measured the effect of the new health warnings against the baseline**. The evaluation indicated that the **new warnings**, only a short time after introduction, had:*

- *increased knowledge about the health effects of smoking by 35 percent*
- *made smokers and non-smokers think more about the health effects of smoking (58 and 47 percent respectively)*
- *made non-smokers feel better about being non-smokers*
- *increased the motivation of 44 percent of smokers to quit (among those smokers who attempted to quit in 2001, 38 percent said the new warnings were a factor in motivating them to try)*
- *encouraged people to smoke less, particularly indoors*
- *had an effect on rates of smokers attempting to quit (Environics 2001b).”* Note emphasis added

This comment in the New Zealand Consultation Document clearly implies that the two surveys demonstrated a marked effect of the introduction of graphic health warnings. However, the statement in the first paragraph of the above extract is factually incorrect. Although Environics conducted a baseline survey (correctly cited in the Consultation Document as Environics 2001a) prior to the launch of the GHWs and conducted subsequent follow-up surveys using identical methodologies, the study quoted as Environics 2001b is not one of the follow-ups to the baseline. It is the study conducted by Environics for the Canadian Cancer Society¹⁰ (study ‘b’ above) and this

did not measure the effect of health warnings against the baseline. The Canadian Cancer Society survey was conducted between September 19 and October 10 2001 (i.e., after the introduction of GHWs) and comprised of 2031 adults (18 years +) of which 652 (633 after ‘weighting’) were smokers. The survey asked a number of questions about the respondents’ awareness of the new warnings. Those smokers who had noticed the new warnings (surprising 10 percent hadn’t noticed a difference in the warnings) were asked a number of questions about the impact of the warnings on their smoking behaviour. These included questions such as:

What impact have the new warnings had on your smoking behaviour inside your home? Have they motivated you to smoke much less inside your home, somewhat less or have they had no impact?

Only 11 percent of the smokers answered ‘much less’ to this question, whereas 72 percent of smokers answered ‘no impact’.

To what extent have the new warnings increased your motivation to quit smoking? Has your motivation increased?

Only 11 percent of smokers claimed their motivation had increased a lot and 56 percent of smokers said the new warnings had produced no impact on their motivation to quit.

Although the majority of smokers in the 2001 Environics survey¹⁰ claimed the new GHWs had no effect on their intentions to change their smoking behaviours, one could argue, from a tobacco control perspective, the minority of smokers claiming an impact of GHWs is a justification for the introduction of new warnings. However, there are some major problems associated with such an interpretation of the data from the Environics 2001 study¹⁰ conducted for the Canadian Cancer Society. The main problem being that contrary to the implication in the New Zealand Consultation Document there was no baseline, i.e., the study made no attempt to determine the influence of the **previous health warnings** on smoking less or motivation to quit etc. A well controlled study would have asked behavioural questions about the influence of warnings in two phases of the study, one before and the other after the introduction of the new warnings. A comparison of the data from two surveys could have provided some insights into any directional changes associated with the introduction of the new warnings.

Fortunately, as previously mentioned, Health Canada did commission baseline and follow-up surveys to determine the effects of the introduction of the GHWs. These so-called ‘Wave studies’ (study ‘a’ above) asked some questions about smoking incidence, quit attempts, awareness of smoking and health problems as well as questions about quitting intents. The data from some of these questions allows a direct pre and post GHW comparison of actual smoking behaviour parameters. In other words it is a source of ‘type one’ data. Although Health Canada published the ‘Wave One’ baseline results¹¹ on their web-site, they have never publicly released the results from the follow-up surveys. Fortunately, we have been able to obtain the follow-up reports via the Freedom of Information Act. The results from the follow-up surveys (April 2001 through to Dec 2003) indicate that the introduction of GHWs in January 2001 have **not** been associated with a reduction in cigarette consumption per smoker,

have **not** resulted in more smokers making quit attempts, and have **not** been associated with an increase in the number of smokers believing that smoking is a serious health problem. (see Appendix B for my review of the Environics ‘Wave’ studies).

Interestingly, Murray Kaiserman from Health Canada made a presentation at the 2003 WHO meeting in Helsinki² (study ‘c’ above). This was based on the outcome of the Environics ‘Wave surveys’ and although it claimed the new health warnings continued to be noticed and that smokers continued to learn about smoking and health, it avoided mentioning the lack of a GHW effect on the key indices of smoking behaviour.

The conclusions drawn from an examination of the actual behavioural data from the Environics ‘Wave studies’ are very similar to those produced by Gospodinov and Irvine (2003)¹² (study ‘e’ above) following their analysis of data from the Canadian Tobacco Use Monitor Surveys (CTUMS). These authors compared data from the CTUM surveys before and six months after the introduction of GHWs and they concluded that the introduction of GHWs was not associated with a significantly decreased smoking prevalence. This is captured in the following summary from the paper:

“New health warnings on tobacco packaging in Canada became mandatory in January 2001. As of that time producers were required to print large-font warning text and graphic images describing the health consequences of using tobacco. This study uses micro data from two waves of Health Canada’s ‘Canadian Tobacco Use Monitoring Surveys’ bordering the legislation to investigate if the introduction of the warnings had any significant impacts on smokers. The recently drafted Framework Convention on Tobacco Control, under the sponsorship of the World Health Assembly, assigns a central role for this type of message. Our findings indicate that warnings have not had a discernable impact on smoking prevalence. The evidence of their impact on quantity smoked is positive, though only at a relatively low level of confidence.” – Abstract from Gospodinov and Irvine (2004)¹².

Gospodinov and Irvine (2004)¹² qualify their finding that the CTUMS survey following the introduction of GHWs indicated a slight (barely significant) decrease in cigarette consumption by stating that factors other than GHWs may have contributed to this slight reduction e.g an increase in cigarette taxation and a seasonal variation in cigarette consumption.

The strengths of the CTUM surveys and the Environics Wave studies are:

- Both are longitudinal studies examining aspects of smoker behaviour and awareness of smoking and health issues before and after the launch of GHWs in Canada.
- The same methodologies were used for the before and after GHW launch surveys. Hence this allows comparisons to be made of the influence of GHWs without complications caused by using different methodologies in the pre and post surveys.
- Both are good examples of Liefeld ‘type one’ data i.e they track actual changes in behaviour rather than asking consumers what they think GHWs may do to their smoking behaviour.

Another study frequently cited by tobacco control activists and regulators is the Hammond et al (2003)¹³ article published in the journal Tobacco Control (article ‘d’ above). The recent New Zealand MOH Consultation Document cited this article as evidence for the ‘effectiveness’ of GHWs: The following is an extract from the NZ MOH Consultation Document:

“A 2003 article in Tobacco Control presented the results of a telephone survey of Canadian smokers which was conducted at the end of 2001 and followed up three months later. The study assessed the impact of graphic Canadian warnings on smoking behaviour and intentions to quit, and the salience of the warnings for smokers. Its conclusions included the following.

- *Virtually all smokers (91 percent) reported having read the warning labels.*
- *Over 75 percent of those surveyed had discussed the new warning labels with other people.*
- *Smokers who read, thought about and discussed the warning labels were more likely to have quit, made a quit attempt or reduced their smoking at the three-month follow-up survey. This calculation was adjusted for intentions to quit and smoking status at baseline.*
- *Twenty-three percent of survey participants made an attempt to quit smoking during the three months since the previous survey.*
- *The labels remained salient to smokers more than a year after they were introduced (Hammond et al 2003)”. Extract from p25/26 of the Consultation Document.*

This summary of the Hammond et al paper is somewhat misleading as it creates the impression that the effects reported above are specifically attributed to GHWs as opposed to health warnings in general. This is not the case as can be seen from the following short critique of the Hammond et al study.

Hammond et al conducted a telephone survey of 616 Canadian adult smokers in October/November 2001 with a follow up survey three months later. They calculated an index of the “depth of cognitive processing” of the health warnings (GHWs were in place at the time of the survey) among the respondents in the baseline survey in October/November 2001. The index was constructed according to the answers to questions such as:

- Have you read the messages on the outside of the cigarette packs?
- How often have you thought about the warnings on packs?
- Have you read messages on the inside of the packages?
- How often have you thought about the messages on the inside of packs?
- Have you ever talked about the new warning labels with other smokers?
- Have you ever saved or held on to a warning label?

Baseline measures of smoking behaviour were made and these included daily cigarette consumption rates, quitting history and intention to quit within the next 30 days, three months, six months, one year, or not at all. During the follow up survey (January/February 2002) the respondents were asked to report any changes in their smoking behaviour since the baseline survey.

Logistic regression analyses were performed to predict quitting, quit attempts and reductions in smoking during the three month follow up. Factors such as baseline smoking status (cigarettes per day, prior quit attempts, and intentions to quit) and the index (depth) of cognitive processing of the health warnings were entered into the regression analyses.

The results indicated **weak** but statistically significant associations between cessation behaviour (quitting, attempts to quit, or reduced cigarette consumption) and cigarettes per day (negative relationship), prior quit attempts and depth of processing the warning labels. The stated intention to quit at the baseline survey produced by far the strongest relationship with subsequent cessation behaviour.

There was also a relationship between stated intention to quit and the depth of processing the warning labels.

It is possible that readers of the Hammond paper may interpret the weak relationships between the depth of the cognitive processing of the warning labels and quitting behaviour as proof that the use of **graphics** in health warnings make smokers more likely to quit. However, this interpretation is incorrect because the study does not address the issue whether the new graphic health warnings are more or less effective than the previous Canadian Health warnings in terms of impact on cessation behaviour. Ideally, a similar study should have been conducted prior to the introduction of the new graphic warnings. The results could have been compared with those from the current study thus facilitating a comparison of the two types of health warning.

Another important point regarding the Hammond et al study is the reported association between the stated intention to quit and the depth of processing of the warning labels does not necessarily mean that the warning labels encourage smokers to quit. The alternative explanation of this finding is that those smokers who intend to quit may be more likely to read the warning labels. Such an association could have also been present with the previous non-graphic warnings.

Hammond et al also claimed the participants in their survey had a strong knowledge of the warning labels, particularly those on the outside of the pack. They stated that 91 percent of the respondents had read the warning labels. This may be interpreted as an important factor associated with the use of GHWs. However, it should be stressed that in the pre GHW Environics baseline survey (Wave one) conducted in 2000 for Health Canada¹¹, Environics Research reported that 98 percent of adult smokers were aware of the non-graphic health warnings and that only 3 percent of adult smokers failed to accurately recall at least one of the warnings. Thus one can confidently state that Canadian smokers had a strong knowledge of the health warnings prior to the introduction of the GHWs.

Fong et al (2004)¹⁷ presented the results of an international comparison study of cigarette pack health warnings (study 'f' above) at the 2004 Society for Research on Nicotine and Tobacco (SRNT) in Scottsdale, Arizona. This was cited in the recent NZ MOH Consultation Document as evidence claiming that the Canadian graphic health warnings were more likely than the Australian text based health warnings to make

smokers think about the health risks of smoking. However, the study also indicated that the new text warnings in the UK (covering one third of the front and back of packs) produced a similar response to the Canadian graphic warnings. One could interpret these findings as being evidence to suggest that there is **no additional benefit of the inclusion of graphics** over and above the larger text warnings currently used in the UK. Once again this study appears to be an attitudinal rather than an actual behavioural study, therefore the findings need to be treated with caution. I have attempted to obtain more details of the Fong study from the SRNT website. Although abstracts of 11 presentations co-authored by Fong are provided from the 2004 SRNT meeting the 'health warning' study is not one of them. I have also written directly to Dr Fong requesting a copy of this abstract. Unfortunately he has failed to respond. Consequently, I cannot currently produce any further comments on this article.

5. AUSTRALIAN RESEARCH ON HEALTH WARNINGS

Australian cigarette package health warnings were changed in 1995. Since then Australian packs have a health warning that covers 25% of the front of the pack, a health message covering 33% of the back of the pack, and a side panel containing ISO tar, nicotine and CO yields. Recently, the New Zealand MOH Consultation Document¹ referred to a 1996 evaluation of the Australian health warnings as follows:

“A 1996 evaluation reported that:

- *60 percent of smokers believed that the health warnings and health information on tobacco packs had improved their knowledge of the health effects of tobacco consumption*
- *over 50 percent of smokers thought that the health warnings had raised their concerns about smoking*
- *78 percent of smokers believed that the warnings had some effect on their behaviour*
- *33 percent of smokers believed that the warnings had helped them smoke less*
- *45 percent of recent ex-smokers believed that the warnings had helped them give up smoking*
- *33 percent of smokers felt that the health messages had made them think about the health effects when they bought cigarettes. (reported in Commonwealth Department of Health and Aged Care 2001)”*.

This 1996 evaluation of the Australian health warnings indicated that the large text based warnings were effective in communicating the health risks of smoking. Borland and Hill 1997¹⁴ also conducted a survey shortly after the introduction of the new Australian warnings in 1995. They produced the following conclusion about the results of their survey:

“These results suggest that the new health warnings are resulting in better informed smokers and thus suggest that informative health warnings can play an important role in better informing consumers.”

Consequently, one could conclude from a) the research on visibility of health warnings, b) research indicating that the prime function of health warnings is to educate consumers about smoking and health issues, and c) the Australian research above, that the large text based health warnings on 25% of the front of the pack are an effective means of health warning communication. However, there are proposals to change the health warnings in both Australia and New Zealand. In May 2004 the Australian Treasury Department published a revised Impact Statement¹⁵ in which it proposed, among other things, to replace the existing text based health warnings with larger warnings incorporating graphics. The ‘Impact Statement’ referred to a review conducted by Elliot and Shanahan¹⁶ for the Australian Dept of Health and Ageing and Treasury in 2000. The following statements were made about the inferences and conclusions from the Elliot and Shanahan review

“...that the existing health warnings are out date, had little impact on consumers and that new graphic health warnings, along the lines of the Canadian regulations would be appropriate for Australia.”

“Retaining the existing mandatory standard would continue to provide the same level of consumer information that has been in place since 1994 for tobacco products. This is no longer considered adequate as the information is out of date and does not reflect current evidence about the health effects of smoking.

The existing health warnings have also lost effectiveness over time. An evaluation of the current 6 health warnings and explanatory messages, conducted in 2000 by Elliott and Shanahan Research affirmed that after 6 years of exposure the messages had become less noticeable and had lost some of their potency. The evaluation found that there is a need to update the current health warnings to include new information on the health effects of tobacco. The report concludes that new health warnings would renew interest, increase readership levels and optimise quitting attempts.”

This issue of ‘wear-out’ of the Australian health warnings appears to be a key factor in the proposals from both the Australian¹⁵ and New Zealand¹ health authorities to replace the text based health warnings with GHWs similar to those used in Canada. The NZ Consultation Document commented that the Elliot and Shanahan review had indicated that the text based health warnings had become less noticeable with the passage of time and hence less effective. Whilst the Australian Treasury Dept Impact Statement¹⁵ and the New Zealand Consultation Document¹ both correctly quote the overall conclusion from the Elliot and Shanahan Research 2000¹⁶, one can question the validity of the conclusion contained in the source article. The following overview of the Elliot and Shanahan study should demonstrate why one should question the conclusion that the Australian health warnings have ‘worn out’.

The Elliott and Shanahan 2000 study consisted of three components:

- a) a literature review on health warning publications
- b) a quantitative telephone survey asking smokers and non-smokers about health warning awareness etc conducted in 2000 and designed to be compatible with a similar survey conducted in 1996, and
- c) a series of mini focus group discussions among smokers, non-smokers and experts/stakeholders in the ‘anti tobacco health field’ (qualitative study).

One would have expected that a comparison of the 1996 and 2000 quantitative surveys would provide information relating to the effectiveness, impact and ‘wear-out’ of the health warnings that were introduced in 1994. Indeed, Shanahan described the quantitative survey phase of his 2000 study as follows:

“A quantitative survey which consisted of monitoring and assessing current awareness and attitudes to health warning labels and any changes that have occurred since the baseline data from the 1996 E&S Research study. The 2000 survey established current reactions and attitudes to the labelling issues, measuring change among the key target groups, and establishing, if there are differences, where they are, and if these are statistically significant”.

The 2000 survey comprised of 1204 respondents of which 822 were current smokers, 130 recent ex-smokers (<12 months), 151 longer term ex-smokers (>12 months) and 101 non-smokers (presumably they mean never smokers). The 1996 survey was larger with 2014 participants of whom 1417 were smokers, 187 recent ex-smokers, 130 longer term ex-smokers and 280 non-smokers. The same questionnaire was administered in both surveys. Thus a comparison of the results from the two surveys should be scientifically valid.

I have selected data from a number of questions which are related to the issue of health warning ‘wear-out’.

Q.3 Are you aware of any health messages or health information on the front, side or back of a tobacco/cigarette pack? 98 percent of smokers in both 2000 and 1996 were aware of warnings on the front of the pack and there were no significant differences between the two surveys in the awareness of warnings on the front, side or back of the pack.

Q4. Have you read any health messages or health information on the front, side or back of the tobacco/cigarette pack? There were no significant differences between 1996 and 2000 in the number of respondents answering ‘yes’ to this question. For example 93 percent of smokers in 2000 (95 percent in 1996) claimed to have read messages on the front of packs.

Q.5 What health message or information is on the front of the cigarette pack? Among current smokers there were no clear differences in the numbers quoting the various warnings **unaided** in 1996 and 2000. For example, the most frequently cited warning ‘smoking when pregnant harms your baby’ was cited by 65 percent of smokers in 2000 and 66 percent in 1996. The percentage of recent ex-smokers citing the pregnancy warning **rose** from 59 percent in 1996 to 73 percent in 2000. Those ex-smokers citing ‘smoking can harm others’ **increased** from 12 percent in 1996 to 23 percent in 2000.

Q.6 What health message or information is on the side of the cigarette pack? The numbers of smokers and recent ex-smokers citing information on tar content or CO content increased from 1996 to 2000.

Q.9 I'm going to read out to you some health messages and information. Could you please tell me if the messages or information appears on the pack, or does not appear at all, or if you are uncertain? There were virtually no differences between 1996 and 2000 in the percentages of smokers responding affirmatively to the aided recall of the current health warning messages. Recall of all six current health warnings were in the high 80 percent and 90 percent ranges. Aided recalls of three messages (smoking when pregnant, smoking is addictive, and smoking can harm others) were significantly higher for recent ex-smokers in 2000 than in 1996.

Q16 Are you aware of an information line telephone number which is included with the health message on tobacco packs? There was a **greater awareness** of the information line in 2000 than in 1996 among smokers (60 percent aware in 2000, 40 percent in 1996), recent ex-smokers (52 percent aware in 2000, 24 percent in 1996), ex-smokers (17 percent in 2000, five percent in 1996). However, the percentage of those smokers who were aware of the information line actually claiming to have used it was only seven percent in both 1996 and 2000.

The responses to the above questions clearly **do not** support the view that awareness of the warnings has significantly declined over time. One could argue the case that awareness among recent ex-smokers in 2000 had **increased** from the level observed in 1996.

Questions were also asked about the health effects of tar, nicotine and CO.

Q10c And what, if any, are the health effects of TAR? The responses among smokers and ex-smokers were virtually the same in 1996 and 2000 with the top answer being 'damages your lungs' (35 percent of smokers gave this response in both 1996 and 2000). Interestingly, 42 percent of smokers answered 'don't know' in 1996 and this had reduced to 27 percent in 2000.

Q10f And what, if any, are the health effects of nicotine? 32 percent of smokers in 2000 gave the top answer 'addiction' compared with 26 percent in 1996. Again the 'don't knows' were higher for smokers in 1996 (41 percent) than in 2000 (28 percent).

Q10i And what, if any, are the health effects of carbon monoxide? There was a slight decline in smokers giving the top answer 'reduces the ability of blood to carry oxygen' in 2000 (15 percent) than in 1996 (19 percent). However, this was offset by an increase in the number of smokers answering 'poisonous' in 2000 (10 percent) than in 1996 (seven percent). The 'don't knows' among the smokers were lower in 2000 (27 percent) than in 1996 (42 percent).

On the basis of the results from the two surveys one could argue that awareness of the potential health effects of tar, nicotine and CO have increased from 1996 to 2000.

A number of questions were asked about health warnings and attitudes to smoking behaviour;

Q8 When you see health warnings or health information on a cigarette or tobacco pack, what do you think of? What goes through your mind? In 1996 the top answer was 'ignore it/it's my choice to smoke' given by 33 percent of smokers. Only 14

percent of smokers gave the ‘ignore it’ answer in 2000. The top answer in 2000 was ‘I should quit’.

Q13 *Would you say the inclusion of health warnings and health information on cigarette packs has improved your knowledge of the health affects (sic) of tobacco consumption?* The number of smokers claiming that health warnings had improved their knowledge ‘a lot’ **was significantly higher** in 2000 (32 percent) than in 1996 (29 percent)

Q14. *In terms of the way you feel about your own smoking behaviour would you say the health warnings on packs of cigarettes and tobacco have a) Raised your concerns about smoking, b) helped you smoke less, c) helped you switch to a lower tar band, d) helped you give up smoking, e) had no effect on your behaviour.* There were no significant differences among the smokers and recent ex-smoker groups in the answers given in 1996 and 2000. The most popular response was ‘raised concerns about smoking’. This attracted a 54 percent response in smokers in 2000 (56 percent in 1996) and a 60 percent response in recent ex-smokers (54 percent in 1996).

Q11. *How important is it that the Government has health warnings on packs of tobacco and cigarettes?* A significantly higher number of smokers in 2000 (49 percent) than in 1996 (43 percent) thought it was ‘very important’ to have warnings.

The responses to the questions in this category clearly do not support the notion that the effectiveness of health warnings has declined from 1996 to 2000.

It appears the claims of health warning ‘wear out’, loss of impact/ effectiveness etc did not arise from the statistically valid quantitative surveys conducted by Elliott and Shanahan study in 1996 and 2000. These claims emerged from the qualitative mini-discussion groups. One could argue that this ‘data’ is less reliable than the data obtained from the questionnaire surveys because:

- a) The numbers of participants were relatively small compared with the numbers used in the surveys.
- b) The information was predominantly in the form of speculating about what **might** happen under different circumstances rather than assessing actual behavioural events.
- c) Issues such as ‘wear out’ of warnings etc were raised by the study moderators and hence reported attitudes of the participants may not have existed until the moderator raised the issue. This is a major problem with using attitudinal research to attempt to predict actual human behaviour.
- d) The presentation of ‘data’ from the group discussions was in the form of anecdotal statements rather than hard scientific facts.
- e) The output from the qualitative study was heavily influenced by the comments produced in the interview sessions with stakeholders. Although the precise backgrounds of the stakeholders were not disclosed, the report claims they were from the ‘anti-tobacco health field’. Consequently, one needs to question whether the ‘worn out’ view of health warnings expressed by all of the stakeholders was based on the anti-tobacco attitudes of the stakeholders rather than on objective data.

I would strongly argue that the scientific data obtained in the quantitative survey part of the Elliot and Shanahan 2000 study indicates that the text warnings covering 25 percent of the front of the pack continue to be effective in communicating smoking and health information to Australians and that there is no hard evidence of ‘wear out’. Indeed, research from New Zealand supports the view that such text warnings are still effective (see New Zealand research section below).

The New Zealand MOH Consultation Document¹ claimed that the Borland and Hill (1997)¹⁴ study indicated that smokers lacked a basic understanding of the major constituents of tobacco smoke and their health implications. The New Zealand Consultation Document proposed that new health warnings covering “*new research findings about the health risks of smoking*” could be introduced to rectify this situation. This topic was also discussed in the revised Australian Impact Statement¹⁵ which claimed that since the introduction of the existing Australian health warnings in 1995 there has been increasing medical evidence about other harmful effects of smoking. The Australian Impact Statement lists a number of these ‘new’ conditions including:

- Peripheral vascular disease e.g. blood clots and gangrene
- Emphysema
- Mouth and throat cancer
- Stroke
- Impotence

The Australian Impact Statement implied that new graphic health warnings covering these ‘new’ conditions will increase awareness of these conditions amongst smokers and potential smokers. Consequently, it is useful to examine data emerging from the Canadian ‘Wave studies’ to determine whether graphic health warnings have increased the awareness of these ‘new’ conditions.

The Canadian Graphic Health Warnings introduced in 2001 depict graphic representations of the ‘new’ health effects including, impotence, peripheral vascular disease (e.g. gangrene), strokes, mouth diseases and emphysema. The Environics ‘Wave studies’ allow an evaluation to be made of the recall of ‘top of mind’ health effects associated with smoking pre and post the introduction of GHWs. The most frequently cited ‘top of mind’ smoking and health effect in the pre and post GHW surveys was lung cancer with around 60 percent of youth and adults citing this health effect. There was no evidence from either the youth or adult survey of marked increases in citations for the ‘new’ health effects after the introduction of the graphic health warnings. Some examples of the citations from the youth surveys were:

- Oral cancer – 13 percent in 2000 and 15 percent in 2002
- Emphysema – nine percent in 2000 and 11 percent in 2002
- Gum/mouth disease – four percent in 2000 and six percent in 2002
- Blood/circulation problems – two percent in 2000 and three percent in 2002
- Stroke – two percent in 2000 and two percent in 2002
- Smaller babies/ pregnancy problems – two percent in 2000 and one percent in 2002

Similar results were obtained from the adult surveys. One can conclude that the depiction of a more extensive range of smoking and health problems in the GHWs introduced in Canada have produced very little impact on the ‘top of mind’ recall of specific health effects of smoking.

6. RECENT NEW ZEALAND RESEARCH ON HEALTH WARNINGS

Two recent studies commissioned by the New Zealand MoH were discussed in the New Zealand Consultation Document¹. The first, a study by Waa et al (2004)¹⁸ assessed the awareness of existing tobacco health warnings in 624 people from the general population and 376 from the Maori population. Waa et al reported that almost all of the participants indicated an awareness of the health warnings currently on New Zealand cigarette packs and that they had a very good recall of the content of the current warnings.

Waa et al (2004)¹⁸ also asked those respondents who were aware of the current health warnings whether the warnings had influenced them to engage in a number of behavioural activities. The Consultation Document¹ quoted the following data from this aspect of the Waa et al study:

“Respondents were asked whether awareness of the health warnings had influenced them to undertake certain responses. Results are reported below for the general population sample, with results for the Māori sample in brackets:

- *75 (79) percent thought about quitting smoking and 67 (73) percent made a quit attempt*
- *70 (74) percent thought about the dangers of smoking and 46 (47) percent discussed the health warning with others*
- *57 (62) percent reduced how much they smoked*
- *15 (14) percent covered up the health warning*
- *14 (22) percent rang the 0800 number.*

Agreement with the health warning statements was high; even the least supported health warning was supported by 81 percent of respondents”.

One has to be very careful with the interpretation of these figures because they fall into the category of attitudinal data rather than quantified actual behavioural data. However, it is interesting to compare the attitudinal data from Waa et al with that produced in the Canadian Cancer Society study conducted by Environics Research in 2001¹⁰. The Canadian study asked similar questions to those asked in the Waa et al study. The main differences between the studies were in the population of smokers (New Zealanders v Canadians) and the type of health warnings in place at the time of the study i.e., text warning in New Zealand, large graphic warnings in Canada.

Seventy-five percent of the New Zealand general population (GP) sample claimed that the health warnings made them think about quitting. Only 44 percent of Canadian smokers claimed that the graphic health warnings increased their motivation to quit. Fifty-seven percent of the New Zealand GP sample claimed the warnings made them reduce the amounts they smoked, whereas only 28 percent of Canadian smokers claimed the GHWs made them smoke less. Sixty-seven percent of the New Zealand GP claimed that the health warnings had influenced them to make a quit attempt, whereas only 38 percent of the Canadian smokers who had made a quit attempt claimed that the GHWs were a factor influencing the decision to make a quit attempt.

Although the scientific validity of comparing the New Zealand and Canadian study can be questioned the comparison shows that the current New Zealand text based warnings appear to very effective in influencing the attitudes of smokers, and more so than the effect of GHWs among Canadian smokers.

The second New Zealand study mentioned in the Consultation Document¹ was also commissioned by the MOH but carried out by BRC Marketing and Social Research¹⁹. The NZ Consultation Document described the BRC study as follows:

“The purpose of the survey was to test which of a number of different pictorial and text warnings would be effective in helping people to consider their smoking-related behaviour. Health warnings were tested in the form of mock-up cigarette packets to ensure as realistic a basis as possible for respondents to consider and react to the warning messages.

The (paraphrased) objectives for the study were:

- *to prioritise smoking health warning messages, images and texts according to their likely impact*
- *to determine reactions to design aspects of the messages*
- *to evaluate the extent to which health warnings convey believable information*
- *to evaluate the extent to which health warnings influence beliefs and attitudes to smoking*
- *to evaluate the extent to which warning messages provide an avenue for smokers to seek help to quit smoking*
- *to evaluate to what extent warnings, along with other strategies, may change behaviour leading to reduced smoking (BRC 2004).*

The cigarette pack designs were tested by way of 100 face-to-face interviews with 56 current smokers, 17 recent quitters and 27 non-smokers. The messages were presented in five categories:

1. *children, second-hand smoke, role modelling*
2. *physical health*
3. *poison*
4. *quitting help*
5. *addiction.*

Findings

Under the children, second-hand smoke and role modelling category, the message ‘You’re not the only one smoking this cigarette’ was the clear preference, with 44 percent of those surveyed selecting it as the most likely out of six messages to have an impact.

Under the physical health category, 11 messages were tested. The message selected most often (by 47 percent of current smokers and recent quitters) as likely to have the most impact of this group was ‘Smoking causes blindness’. Under the poison, quitting health and addiction categories, reactions were mixed to the images and text that were presented but provided some insights into how smokers, non-smokers and recent quitters are likely to react to images, texts, colours and other elements of design (BRC 2004).

The elements that seemed to have the most impact on respondents were clear, bright pictures and bold, simple warning messages supported by informative (yet brief) additional text (BRC 2004).

The study also asked people to identify the best way to communicate health warnings and quit advice to the general public. The findings were:

- *approximately half of respondents mentioned cigarette packs (as they had seen) as an appropriate communication channel*
- *approximately 60 percent mentioned television as an appropriate medium (BRC 2004).*

It was primarily visuals that respondents thought were the most effective in communicating smoking warnings. Graphic images with shock factor, which disturbed, or shook complacency, were often referred to as being effective, whether they feature on television, cigarette packs or billboards (BRC 2004).

As well as clear pictures and simple messages, colour and bold text were said to be hugely important, regardless of the type of communication channel (BRC 2004)”.

In many ways the BRC study was similar to the attitudinal studies conducted in the late 90s for Health Canada and those conducted more recently by Elliot and Shanahan for the Australian Health Department (see Appendix A). As previously mentioned this type of study does not provide any evidence of the actual behavioural impact of

modifying a health warning. The BRC report contains a statement about the relationship between health warnings and smoking behaviour:

“We are aware that it has been argued in the past that there is no evidence showing that tobacco health warnings affect smoking behaviour. Therefore changes to health warnings are not justifiable in the context of the compliance costs that the industry would incur. However, the rationale for requiring the tobacco companies to display information on tobacco packaging is wider than simply seeking immediate behaviour change”.

The BRC (2004) report does not expand on the above statement by explaining the ‘wider rationale’. One can only assume that if it is not behaviour related i.e., more quitters, reduction in cigarette consumption etc, then it must relate to awareness and education about the health effects of smoking. If so, one can argue very strongly that research studies show that the awareness of text based warning messages in New Zealand, Australia and Canada (pre GHW) is extremely high. As the awareness of the key smoking and health issues is also very high, it is difficult to see how a change in the format of a health warning could increase these levels.

References

1. New Zealand Ministry of Health. 2004. Review of the Smoke-free Environments Regulations 1999: Labelling of tobacco products, tobacco product content regulation, disclosure by tobacco companies, regulation of product descriptors: Consultation document. <http://www.ndp.govt.nz>
2. Kaiserman M, Malomaski Illing E, et al. (2003) The evaluation of Canada’s health warning messages: 18 month follow-up. Presented at the 12th World Conference on Tobacco or Health, Helsinki
3. Thomson G, Wilson N, Crane J et al 2004 Submission on the Consultation Document: Review of Smoke free Environment Regulations 1999. Wellington School of Medical and Health Sciences.
4. Barwick H, Bergham P, Burns J, et al. 1995. Smoke-free Issues. An analysis of key issues underpinning proposed amendments to the smoke-free environments legislation. Unpublished report, available from the New Zealand Ministry of Health.
5. Allen & Clarke Policy and Regulatory Specialists Ltd. July 2003. *Options for the Regulation of Tobacco Products*. Unpublished report to the New Zealand Ministry of Health. www.moh.govt.nz or www.allenandclarke.com
6. Liefeld JP (1999) The relative importance of the size, content and pictures on cigarette package warning messages. Report for Health Canada (www.hc-sc.gc.ca/hecs-sesc/tobacco/research/archive/index.html)

7. Nilsson T (1999) Legibility and visual effectiveness of some proposed and current health warnings on cigarette packages. Report for Health Canada. (www.hc-sc.gc.ca/hecs-sesc/tobacco/research/archive/index.html)
8. FOA Defence Research Establishment (1997) Evaluation of warning texts on cigarette packets.
9. CBRC. 1992. Health Warnings and Contents Labelling on Tobacco Products. Victoria: Centre for Behavioural Research in Cancer.
10. Environics (2001b). Evaluation of New Warnings on Cigarette Packages. Prepared for Canadian Cancer Society. http://www.cancer.ca/vgn/images/portal/cit_776/35/20/41720738niw_1abelstudy.pdf.
11. Environics (2001a). Baseline Surveys: The health effects of tobacco and health warning messages on cigarette package (final report).
12. Gospodinov N and Irvine I (2004) Global Health Warnings on Tobacco Packaging: Evidence from the Canadian experiment. Topics in Economic Analysis and Policy 4(1) Article 30. <http://www.bepress.com/bejeap/topics/vol4/iss1/art30>
13. Hammond D, Fong G, McDonald P, et al. (2003) Impact of the graphic Canadian warning labels on adult smoking. Tobacco Control 12: 391–395.
14. Borland R and Hill D (1997) Initial impact of the new Australian tobacco health warnings on knowledge and beliefs. Tobacco Control 6(4): 317–25.
15. Australian Revised Regulatory Impact Statement – Trade Practice (Consumer Product Information Standard) Tobacco Regulations May 2004.
16. Elliot and Shanahan (2000) Evaluation of the health warnings and health messages on tobacco products. Report for the Australian Dept of Health and Ageing (www.health.gov.au/pubhlth/strateg/drugs/tobacco/warnings.html)
17. Fong GT, Hammond D, Borland R, et al. 2004. Quasi-experimental evaluation of the enhancement of warning labels in the United Kingdom: initial findings from the International Tobacco Control

Policy Evaluation Survey. Presentation at the Society for Research on Nicotine and Tobacco, Scottsdale, Arizona, 21 February

18. Waa A, Gillespie J and Afzal R (2004) Influence on Smoking Behaviour and Perceptions of Cigarette Packaging in New Zealand: Preliminary findings. Unpublished report to the New Zealand Ministry of Health.
<http://www.ndp.govt.nz/publications/packagingandlabelling.html>
19. BRC. 2004. Smoking Health Warnings Study: The effectiveness of different (pictorial) health warnings in helping people consider their smoking-related behaviour. Wellington: BRC Marketing & Social Research. URL: <http://www.ndp.govt.nz>

APPENDIX A

A.1 OVERVIEW OF THE RESEARCH ON GRAPHIC HEALTH WARNINGS

1. A number of attitudinal studies have been conducted for Health Canada and the Australian Dept of Health on the issue of health warnings in general and the potential introduction of graphic health warnings. These studies were either questionnaire type polls or focus group discussions. They were not designed to measure actual consumer behaviour but assessed the attitudes, beliefs or opinions of consumers to health warning issues. It is apparent from the various research reports that the key criteria for assessing the potential impact of graphic health warnings were:
 - The ability of the health warnings to attract the attention of smokers
 - The ability of the health warnings to educate smokers and non-smokers
 - The value of the health warning in preventing people from starting smoking
 - The value of the health warning in encouraging smokers to quit
2. The attitudinal studies reported that a very high level of awareness of smoking and health issues existed among the participants of the attitudinal studies conducted in Canada (prior to the launch of GHWs) and Australia.
3. The studies in Canada and Australia revealed a very high awareness and recall of the text based health warning messages.
4. Most participants in the attitudinal studies thought that health warnings, in general, were useful and should be included on cigarette packs.
5. Although, the attitudinal studies did not demonstrate actual declines in the awareness or recall of the text based health warnings, many participants expressed the view that the existing text warnings in Australia and Canada (prior to 2001) need to be refreshed or revitalised.
6. Many participants felt that the use of graphics would improve the effectiveness of health warnings because:
 - They would be more difficult to ignore than text messages
 - They can provide a visual display of disease conditions
7. Many participants felt that the shock factor of some graphic health warnings e.g the gangrenous foot, should be balanced by health warnings offering positive messages e.g about the benefits of quitting.
8. Many of the attitudinal studies revealed interesting ideas about improving health warnings that were not necessarily associated with the use of graphics. These included:
 - More frequent rotation of health warnings
 - Health warnings containing new information about smoking
 - More positive health warnings
 - More succinct, personalised health warnings
9. The Australian reports produced by Shanahan and Elliot commented upon the problems associated with research into the effects of health warnings. These included problems with attributing the changes in attitudes or smoking behaviour to health warnings, and separating the influence of health warnings from other tobacco control activities on reducing smoking incidences.

10. One Canadian report produced by Professor Liefeld commented upon the deficiencies of attitudinal surveys. He pointed out that asking consumers questions about beliefs, attitudes, intentions of each proposed health message is not a valid method of measuring the potential impact of messages on the future behaviour of consumers. He describes two types of data; type 1 measures the actual behaviour of individuals or groups, and type 2 measures psychological states such as thoughts, feelings, beliefs, opinions etc which may not exist until a question is asked. This is especially so in the focus group studies where the role of the group moderator was to raise specific points for discussion. Liefeld argued that relying on type 2 data without corroborating type 1 data is a non sequitar and a misuse of evidence. Virtually all of the data collected by Health Canada (prior to the launch of GHWs) and the Australian Dept of Health can be classed as 'type 2'.
11. The 'Wave surveys' conducted by Environics Research for Health Canada are, thus far, the only real source of Liefeld's 'type 1' data in connection with GHWs. These studies assessed aspects of smoking behaviour, awareness of smoking and health issues and attitudes to smoking before and periodically after the launch of GHWs in Canada in 2001.
12. The 'Wave surveys' of adults conducted in Nov/Dec 2000 (baseline survey), March/April 2001, July 2001, Nov/Dec 2001, July 2002 and Dec 2002 revealed the following:
- Although there has been a trend of a gradual decline in the numbers of adult smokers in Canada over the past two decades, there was no evidence of an acceleration in the rate of decline following the launch of GHWs in 2001.
 - The cigarette consumption rates among 'everyday' and occasional smokers remained constant over the 6 surveys. Thus there is no evidence of an influence of GHWs on cigarette consumption rates.
 - Although there was a slight post GHW in the numbers of smokers claiming that they were seriously contemplating quitting but this was not reflected in subsequent surveys by an increase in the numbers of smokers who claimed to have made quit attempts.
 - The number of smokers who believe smoking causes serious health problems has not increased following the introduction of GHWs.
 - The majority of smokers in the surveys believed that the GHWs were more effective than the old warnings in encouraging smokers, in general, to quit or smoke less. However, only a small minority of smokers claimed that the warnings were actually effective in encouraging **themselves** to quit or smoke less.
 - The information on chemicals such as benzene, formaldehyde and HCN now incorporated into the GHWs and text on the slides and sides of packs appears to have produced only a small influence on the numbers of smokers who cited these specific chemicals as being components of smoke that produce disease or harm to health.
13. The 'Wave surveys' of Canadian youth (12-18 year olds) were conducted in parallel with the adult surveys. The following conclusions can be drawn from the results:

- Although the introduction of GHWs did not increase the youth respondents' beliefs that smoking was a serious health problem, when prompted, the respondents claimed that the new GHWs were more effective than the previous text based warnings about providing information on the health effects of smoking.
- When prompted, the respondents claimed that the new information on chemicals and toxic substances had increased their desire to quit smoking or smoke less.

However, these claims were not reflected in changes in smoking behaviour as:

- GHWs have not produced a clear downward trend in smoking incidence among the Canadian youth populations sampled.
- There was no effect of the launch of GHWs on cigarette consumption rates in everyday or occasional smokers.
- Although there was a small post-GHW increase in the numbers of youth smokers stating they intended to quit smoking, this was not reflected in the numbers of youth smokers who had made quit attempts.
- Although the packs with GHWs contained additional information on chemicals in smoke (e.g HCN, formaldehyde, benzene etc) only very small numbers of Canadian youth cited these specific chemicals as being associated with the health effects of smoking.

One can summarise the research on graphic health warnings as follows:

- Attitudinal studies indicate that smokers and non-smokers believe the use of graphics in health warnings will increase their awareness of smoking and health issues, act as deterrent to starting smoking and encourage smokers to quit.
- The only prospective behavioural study designed to measure the actual effects of introducing GHWs in Canada indicates that the GHWs have produced little or no effect on cigarette consumption rates and quit rates. Nor have they increased the awareness of smokers' of the health risks of smoking. The awareness levels were very high prior to the launch of GHWs with little scope for increases.

A.2 STUDIES CONDUCTED FOR HEALTH CANADA

Full reports of the studies summarised in this section can be obtained from the Health Canada website (www.hc-sc.gc.ca/hecs-sesc/tobacco/research/archive/index.html).

A.2.1 - ENVIRONICS MARCH 1999 HEALTH CANADA – OFFICE OF TOBACCO CONTROL QUALITATIVE (FOCUS GROUP) REPORT REGARDING HEALTH WARNING LABELS AND IMAGES ON CIGARETTE PACKAGES

The stated aim of the study was to get information on attitudes, beliefs and awareness among smokers to potential health messages, graphic images and pictorials (e.g skull and crossbones). The study assessed attitudes etc in 18 focus groups and was completed in March 1999. The age range of the participants was 13-60, all were smokers and they were grouped into recent beginners (started smoking within the last

year), potential quitters (thinking about quitting in the next 6 months) and staunch smokers (not thought about quitting in last 5 years).

The focus group sessions commenced with discussions about why the participants started smoking and their attitudes to the health risks of smoking. The awareness of the current health warnings was assessed in the discussion groups and the participants' reactions to 11 health warning messages were assessed. The following health messages were used in the discussion groups:

1. Save yourself
2. Cigarettes Blow
3. Cigarettes are garbage
4. Hook line and stinker
5. Smoke free = tax free
6. Sexy?
7. Baby wants to breathe
8. Do your kids a favour
9. Long live the ex-smoker
10. Your lungs, your choice
11. Lights bite

The messages were produced in both English and French in order to cater for both English and French speaking participants.

A number of potential health warning labels were introduced in the discussion groups. The report contained the following comments about the various health warnings.

1. **45000 Canadians will die this year from smoking** – this was viewed as being very effective in both languages. It was direct, new and somewhat shocking
2. **4-aminobiphenyl, a banned commercial chemical causes cancer** – this was viewed as being very ineffective
3. **Cigarettes cause cancer** – this was viewed as being not very effective because it was 'old news'
4. **Cancer-causing tar is a sticky, black residue that contains hundreds of chemicals** – This was viewed as being moderately effective
5. **Smoking can kill you** – This was viewed as being not particularly effective. Again it was 'old news' but some thought it could be strengthened by using the word 'will' rather than 'can'.
6. **Carbon Monoxide is a colourless, odourless, poisonous gas also found in automobile exhaust** – This was seen as one of the most effective labels – it was something new.
7. **Tobacco smoke can harm your children** – This didn't capture much attention
8. **Cigarettes are addictive** – This was ineffective as it was viewed as an overused message
9. **Cigarettes cause stroke and heart disease** - This was somewhat effective
10. **Exposure to hydrogen cyanide can lead to headaches, dizziness, nausea, vomiting and death** – This label was somewhat effective
11. **Less than 8 percent of 12-14 year olds smoke** – this was not at all effective

12. **Over 90 percent of 12-14 year olds don't smoke** – this was even less effective than the one above
13. **Nicotine is the active drug in tobacco and is addictive** – this was viewed as being not particularly effective – old news.
14. **Cigarettes cause fatal lung disease** – this was somewhat effective among the 13-14 year olds. However many felt people should know these risks and were tired of such messages
15. **Nitrosamines cause cancer. They are the most active cancer causing agent in tobacco** – This was not at all effective as the participants didn't get past the first word
16. **Smoking can cause a slow and painful death** – This was a very effective message for all age groups. It was scary and made the participants think.
17. **Smoking is a weakness, not a strength** – This was somewhat effective especially among the older participants
18. **Smoking shortens your breath and decreases your energy level** – This was very effective in French and somewhat effective in English
19. **Smoking during pregnancy can harm the baby** – This was effective among a minority of participants
20. **Tobacco Smoke causes fatal lung diseases in non-smokers** – This was not an effective message
21. **You smoke, you stink** – This was very effective – the participants thought the message was fresh, humorous, blunt and to the point.

Mock ups of some graphic images were shown to the participants and their reactions to the graphics were reported. The reported general impressions were:

The image of a diseased mouth was very effective in the English groups but was less credible in the French groups. Many in the English group were shocked by the image and said that such an image on a pack would make them think twice about smoking.

The image of diseased lungs was very effective

The image of a brain and stroke received a lukewarm response. The image was not very clear and many participants thought it could be improved.

The image of a child was well received by adults/parents. However, the participants thought the image would be stronger if the child looked unhappy and maybe picking up a pack of cigarettes.

The image of a bar graph representing 45000 smoking related deaths received a lukewarm response.

The gangrenous foot image received tremendous attention but it generally lacked credibility as many participants linked gangrene to diabetes, not smoking.

A black and white graphic of a cigarette emerging from the lungs did not impress the participants.

In summary the main findings of the study were:

- Participants were quite supportive of anti-smoking initiatives.
- All participants were aware of the health risks associated with smoking
- Many thought the risks are often exaggerated or are too far ahead to contemplate (especially applicable to recent starters)
- All participants were aware of the current text health warnings and could repeat them in detail.
- They were open to the idea of new warning messages and labels.
- Smokers have seen old warnings for so long they are not paying much attention to them
- Many were bored with the old messages
- Some participants thought the current messages could be changed or improved, others said they were addicted and the messages simply reminded them how stupid they were for smoking.
- Most adults thought the concept of health messages was important, not necessarily for themselves but for children contemplating smoking. On the other hand many of the youth didn't care about the messages.
- They were generally supportive of graphic images
- Participants like personalised messages e.g (you smoke, you stink etc)
- They thought cancerous images of mouth, lungs and brain were the most impressive and thought they would motivate people to quit. However a picture of a gangrene foot lacked credibility.
- Pictures accompanied by hard facts were seen as positive
- Most thought adding pictures would capture a segment who are currently ignoring text messages
- Icons such as coffin, skull etc were seen as being silly and cartoon like.
- Most were not interested in the lesser known toxins such as nitrosamines and aminobiphenyl.
- Most thought colour rather than black and white images were more effective.
- Participants were asked to choose how much space on packs should be devoted to health messages (25% (current), 50% or 60%). Most chose 60% but emphasised the importance of colour images and short, new factual messages.
- Some of the younger groups (13-16 years) were not interested in an increased area of health warning but said if this was going to happen then coloured images and pictures should be used.

A.2.2 - ENVIRONICS RESEARCH JUNE 1999 – HEALTH WARNING TESTING FINAL REPORT – PRESENTED TO HEALTH CANADA.

This report summarises the results from 13 focus group studies carried out in Toronto and Ottawa during May and June 1999. The focus groups were segmented according to age and smoking behaviour. Respondents were grouped into three age categories; youth (16-17 years), young adults (18-24 years) and older adults (30+ years). The smoking behaviour categories were staunch smokers (no intention of quitting), potential quitters and non-smokers. Interestingly this Environics report comes with a kind of a disclaimer as it states:

“Qualitative research can provide considerable depth of understanding regarding the attitudes held by individuals. However, it should be remembered that, while indicative of attitudes that do exist, these attitudes are not statistically representative or predictive of the larger population. For this reason the qualitative results used in this report refer only to focus group population and can not be used to explicitly predict how Canadians in general would react given the same information.”

This report provides a detailed account of the procedures of the focus group discussions. Each focus group was controlled by a moderator and the following procedures were adopted:

1. Following a brief introduction the moderator encouraged the participants to discuss their awareness of and views about the existing health warnings.
2. The participants were shown 12 cigarette pack designs. These designs including new graphic health warnings.
3. They completed a questionnaire rating each design on a 7 point scale (1 –low, 7-high) for the following attributes
 - a. Educational effectiveness – how well does the design inform you about the dangers of smoking
 - b. Credibility – how believable or truthful is the information given in the design
 - c. Memorability – how likely is it that you will remember the message or images
 - d. Effectiveness – How effective is the message at convincing smokers to quit or cut down smoking
 - e. Design appeal – Keeping in mind that the purpose of these messages is to convince you to quit or cut down on smoking, is the design effective?
4. The participants then discussed which designs they thought were the most and least effective.
5. The participants then had to come to a consensus group decision on the top 5 most effective designs.
6. Each group had to decide on the best overall design.
7. Finally, at the end of each session the participants were asked to individually write down as many of the new messages they could remember.

Current Message Awareness – The report concluded that the participants had a high level of awareness of the current health warnings. However it was claimed that the warnings no longer attracted the attention of the participants and they needed to be revitalised. Smokers and non-smokers were well informed about the dangers of smoking. Youth smokers believed that the dangers of smokers did not affect them

personally because they are too distant in the future. There was some evidence to suggest that the current warnings were prompting pressure to quit or cut down from non-smoking friends or relatives.

Impressions of New Health Warnings – These received strong positive reactions in all groups. Some of the warnings were rated as being disgusting to look at, however there was a strong consensus that the proposed new warnings would be more effective than the current ones.

There was a higher acceptance of graphic warnings by younger participants than by older people.

There was a strong consensus that the addition of pictures helped the messages to get attention.

There was an impression that clear visuals where the picture delivers the message will have the greatest impact across smokers.

The participants thought that a warning occupying 60% of the front of the pack was an acceptable size for health warnings.

Both staunch smokers and potential quitters thought the new messages would increase the social pressure to quit smoking.

The overall ratings (from the questionnaire) for the new warnings were higher for potential quitters and non-smokers than for staunch smokers. Younger participants and women gave higher ratings than the older participants and men.

Response to Individual Messages

Unfortunately the report doesn't give much detail about the precise wordings or type of picture in each of the warnings tested in the focus group study.

The report describes the following three warnings as the '**Shocking Approach**':

Mouth Cancer – This was rated as the most effective visual image of the three depicting diseased body parts. It was placed in the 'top 5' most effective list by all groups.

Die Hard Smokers Die Hard Deaths – This was rated in the 'top 5' by all groups of smokers. However some staunch smokers tended to discount this message. Most focus groups agreed that a better visual was needed for this message. The report doesn't describe the visual used in testing.

Cigarettes Cause Strokes – This appeared in the 'top 5' in the young smokers groups. Many of the youngsters said that whilst they were aware of a variety of health effects of smoking they were not aware that smoking causes strokes. It was suggested that the visual could be improved because many participants couldn't recognise that the object in the visual was part of a human brain.

Two warnings were described as the '**Children Approach**'

Children See, Children Do – This was viewed as being very effective among all age groups. It was placed in the 'top 5'. It was seen as an approach that was honest, efficient and in good taste.

Your children are sick of your smoking – This was well received by about half of the focus groups. Those who didn't rate this warning highly felt that pollution and allergies were a more likely cause of asthma in children than ETS.

The following warning was classed as a '**Positive Approach**';

Smoking leaves you exhausted – This warning used a picture of a car and was intended to link carbon monoxide in smoke with a car exhaust. However many participants failed to recall this link. Also there was a sense that this message was 'flippant' and inappropriate because tobacco and health is a serious issue.

One warning was classed as a '**Social stigma approach**'

Kiss Me – this included a graphic of a pretty girl kissing an ashtray. Some staunch smokers and teen non-smokers rated this message in the top 5, but it didn't get the same positive endorsement by the majority of participants. Some thought the image had other connotations beside the message that smoking makes your mouth taste like an ashtray.

Two warnings were classed as '**Smokers as a Whole Approach**'

Cigarettes Kill – Many participants liked the straightforward approach of this health warning but many felt the graphic (a hospital bedside scene) didn't do the message justice. Many smokers stated that this type of warning will not motivate them to quit. However, older participants who were more likely to have personal experience of death among acquaintances were more convinced about the effectiveness of this message.

This year smoking will kill off a small city – This featured a bar graph attempting to depict 45000 smoking related deaths. Although many participants thought this warning presented new information it was very text dependant and was not as effective as some of the other more visual warnings.

The following two warnings formed the '**Chemical Approach**'

You inhale this garbage – This was well received and appeared in the overall 'top 5'.

Choose your poison – This was rated as one of the least effective warnings. The main reason being was that all the dangerous chemicals depicted in the warning are safely used and stored in the home.

Many participants felt that the dangers from the chemicals depicted in these two warnings were exaggerated.

The final 3 warnings were classed as the '**Baby Approach**'. They provoked very strong guilt feelings among older smokers but younger smokers didn't feel that these messages were relevant to them.

Smoking Kills Babies – Baby – this warning was accompanied with a picture of a crying baby and was rated in the 'top 5' overall.

Smoking Kills Babies – Pregnancy – this featured a picture of an empty crib. This message was viewed as being somewhat effective but not as powerful as the other two messages in this approach.

Smoking Kills Babies – SIDS – this message was thought provoking and was seen to provide new information. However, a few participants were concerned about its use because they believed that it has not been proved that SIDS is caused by exposure to cigarette smoke.

The five most effective designs were:

- Children See, Children Do
- Mouth Cancer
- Die Hard
- Smoking kills babies (Baby –SIDS)
- You inhale this garbage

A similar top 5 pattern emerged for the youth smokers, however 'you inhale this garbage' was replaced by 'cigarettes cause strokes' in the youth top 5.

The report stated there was a high recall of the health warnings used in the focus group sessions with the more startling warnings attracting a higher recall than the more textual ones. However, the report stressed that as the recall of the warnings would have been aided by the group discussions, the test recall doesn't simulate what would happen in the field.

A.2.3 - ENVIRONICS OCTOBER 1999 - CANADIAN ADULT AND YOUTH OPINIONS ON THE SIZING OF HEALTH WARNING MESSAGES- PREPARED FOR HEALTH CANADA.

One survey of 2018 adult Canadians aged 18+ was conducted in July/August 1999. Another of 746 young Canadians was also conducted in July/August 1999. The surveys were aimed at obtaining information about a range of smoking issues, including cigarette pack health warnings. The following conclusions were relevant to the health warning issue:

- Smokers of all ages almost unanimously agreed that smoking is bad for your health.
- 80% of adult smokers were more conscious of the risks of smoking than they used to be. This figure was 75% for young smokers.
- 50% of smokers of all ages look at pack health warnings at least once per day, only 20% of adults and 10% of young smokers never look at the warnings.
- Virtually all of the smokers report having seen pack health warnings

- The messages ‘Smoking during pregnancy can harm your baby’, ‘Smoking can kill you’ and ‘Cigarettes cause cancer’ were the most remembered by smokers and non smokers. The lowest level of recall was associated with the message ‘Cigarettes are addictive’.
- An overwhelming majority of Canadians support the use of health warnings on cigarette packs.
- About 25% of smokers and 33% of non-smokers believe the current health warnings do not go far enough. 50% of Canadians, smokers and non-smokers, feel the current text messages are about right.
- The majority of smokers and non-smokers thought the current messages provide useful info.
- The majority of Canadians surveyed thought the current health warnings were accurate and were not hard to understand but the majority felt the messages are worn out and have lost their effectiveness.
- 50% of all smokers said the health warnings made them more conscious of the health risks of smoking than they used to be.
- 40% of adult smokers thought the current messages had an impact on getting them to smoke less around others. The figure dropped to 25% for youth smokers.
- 33% of all smokers though the warnings had some impact on increasing their desire to quit.
- Adult Canadians were more likely to suggest the use of pictures in health warnings whereas young Canadians tended to advocate more detailed info in addition to pictures.
- Smokers were more likely than non-smokers to the feel the current warnings didn’t need to be changed.
- The majority of smokers thought that using pictures and colours are an effective way of making health warnings more noticeable.
- 33% of adult smokers and 50% of youth smokers thought that increasing the size of health warnings would make them somewhat more effective in informing Canadians about the health effects of smoking and encouraging them to reduce tobacco use.
- The respondents were shown cards with images of cigarette brands with text and graphic health warnings. 66% of adults and 80% of youth felt that a pack showing a blackened lung and a new text message was more effective than the current health warnings both in informing people about the health effects of smoking and encouraging smokers to reduce consumption.

A.2.4 - LIEFELD JP SEPT 1999 THE RELATIVE IMPORTANCE OF THE SIZE, CONTENT AND PICTURES ON CIGARETTE PACKAGE WARNING MESSAGES.

The study was conducted on behalf of Health Canada Office of Tobacco Control and had the following aims:

1. To estimate the relative impact/importance of the following on the degree to which the warning configuration would encourage teen and adult smokers to quit, and teen non-smokers not to start smoking :
 - a. Size of health warning
 - b. Presence/absence of trade-mark/ trade livery
 - c. Nature/content of warning message

d. The effect of pictures with the warnings

2. To estimate the effect of larger, stronger warnings with pictures, compared to other influences, on the perceived relative influence of pack warning messages on one's thinking about smoking.
3. To estimate the effect of increasing warning message size from 25% to 60% on pack branding recognition.
- 4.

Liefeld makes the point that asking consumers questions about beliefs, attitudes, intentions of each proposed health message is not a valid method of measuring the potential impact of messages on the future behaviour of consumers. He describes two types of data; type 1 measures the actual behaviour of individuals or groups, and type 2 measures psychological states such as thoughts, feelings, beliefs, opinions etc which may not exist until a question is asked. He argues that relying on type 2 data without corroborating type 1 data is a non sequitur and a misuse of evidence. Liefeld recommends two approaches to determining what consumers will actually do when faced with larger, graphic health warnings. One is to directly observe the behaviour of the consumers by implementing the proposed action in a limited geographical area. The other is to conduct a 'conjoint measurement' test where people know they are participating in research but have to make judgements similar to the judgements they make in the real situation.

This type 1 and type 2 data issue is very important given that the vast majority of studies conducted for Health Canada prior to the launch of GHWs produced type 2 data. This is also the case for studies conducted for the Australian Dept of Health. The best source of type 1 data is that produced in the Environics Wave studies before and after the launch of GHWs in Canada.

Liefeld adopted a conjoint measurement test in order to obtain data on the issue of modifying health warnings. This involved constructing exemplars of whole packs combining different levels of the various test attributes. The respondents were then asked to provide overall evaluations of the various exemplars. The test attributes included:

- 3 levels of health warning size – 25%, 50% and 60% of pack front
- Presence or absence of trade mark colours and logos i.e one version was a plain packaging with the brand name only but no colours or logos.
- 4 levels of warning message content
- Picture attribute i.e with or without a picture present with the warning message.

The combinations above resulted in a total of 48 test package images being produced for the study. The number was in fact doubled because both English and French versions were required.

Twelve pairs from the 48 possible packages were presented on a computer screen. Teen and adult smokers were which package from each pair encourages you more to stop smoking, and by how much (i.e a little, a lot etc). Teen non smokers were asked which package encourages you more not to smoke and by how much. A very complex computer algorithm (Sensus TradeOff Software) was used to select the various pairs. Unfortunately I can't understand the following explanation of how the algorithm worked:

“Twelve pairs of cigarette packages were presented. The first pair (based on the ranking and importance responses) is selected by computer algorithm to maximise its learning of the respondents part worth utilities for each attribute of the pair and each attribute level. After the respondent indicates which package would encourage them more to stop/not start smoking, the software recalculates the respondents part worth utilities in order to select the next pair of packages which would maximise its learning of the respondents utilities. The process was repeated until 12 pairs were presented and evaluated. On average each respondent was exposed to 20 to 24 of the 48 packages.”

The respondent simply used the computer screen to select which of each pair encouraged them more to stop (or not start for the teen non-smokers) smoking. They were also asked to rate the degree of encouragement by clicking on one of three levels from weak to strong.

The explanation of how the conjoint statistical analysis was conducted was even more baffling than the paragraph shown above. Apparently they used a Hierarchical Bayes model to determine the so called ‘worth utilities’ of the various aspects of the pack warning message. This approach produced a method of comparing the importance of each health warning modification in encouraging smokers to quit or non-smokers not to start. Liefeld states *“while the reader may think the process was complicated, it was not”*. This surely must be one of the finest understatements ever produced.

The outcome of the conjoint analysis was:

- Larger warning messages produced a higher part worth (i.e more encouraging to stop/not start smoking) in 5 from 6 of the groups of respondents, with the exception being a group of teen smokers from Quebec.
- Strong emotional messages were more encouraging to stop/not start smoking than factual unemotional messages.
- Pictures with warning messages were far more encouraging to quit/not start than text warning messages.
- Packages with full brand livery and trademarks were more encouraging to quit/not start smoking than plain packs in 4 from 6 groups.
- The conjoint analysis produced the following relative importance in encouraging to quit/not start smoking:

Message content	51%
Pictures	29%
Warning Size	12%
Trademark	8%

In addition to the conjoint analysis, the respondents (207 teen smokers (split into 2 groups), 210 teen non-smokers (2 groups), and 200 adult smokers (2 groups)) were also asked to rank seven types of influence on ones thinking about stopping (or not starting) smoking. These were:

- Best friends don’t smoke
- Health warnings on cigarette packs
- Scientific reports of smoking and health on TV and newspapers
- Anti smoking ads on TV, radio, newspapers etc

- A smoking related illness or death in a friend or relative
- Knowledge of the economic and social consequences of smoking

This ranking exercise was performed twice. Once before the respondents had been exposed to the larger warnings with pictures, and then again after they had performed the conjoint analysis exercise with the various pack warning modifications. This, according to Liefeld provided an estimate of the possible influence of the more specific graphic warning messages.

Health warnings on packs moved up in the ranking of factors influencing ones thinking about smoking after the respondents had been exposed to the larger graphic warnings. On average they were ranked 4th behind smoking related illness or death of a friend/relative (1st rank), knowledge of the economic and social consequences of smoking (2nd rank) and scientific reports on smoking and health (3rd rank).

Finally, the influence of increasing warning size to 60% of the front of the pack on brand recognition was assessed. This was achieved by initially showing the respondents thumb nail pictures of 29 brands and asking the smokers to identify their regular brand. Non smokers were asked to identify a familiar brand. The size of the thumbnail pictures was chosen to simulate the viewing size of cigarette packs in a shop display 10-15 feet away from the purchaser. The respondents were then shown the display of 29 brands with existing health warnings (25% of pack front -35% including border) and the time taken for them to identify their regular (or familiar) brand was recorded. This was repeated using the brands with 60% size health warnings. The positions of the 29 brands were randomly assigned for each test run. The difference in recognition times was used as an indicator of the influence of health warning size on brand recognition. The results indicated that the increase in health warning size failed to influence the time taken to recognise the regular or familiar brands.

Liefeld produced the following conclusion:

“Overall the effects of increasing the size and emotional content of warning messages on cigarette packages and including message enhancing pictures, has the potential to encourage more smokers to stop smoking and deter more non-smokers from starting to smoke. This research cannot speak to the number of smokers who might be encouraged to stop or the number of non-smokers who would be encouraged not to start smoking.”

A.2.5 - ENVIRONICS RESEARCH GROUP MAY 2000 – TESTING NEW HEALTH WARNING MESSAGES FOR CIGARETTE PACKAGES: A SUMMARY OF THREE PHASES OF FOCUS GROUP RESEARCH – PREPARED FOR HEALTH CANADA

A series of 35 focus group sessions were held in 1999. The objective was to assess the reaction to new health warning messages and graphics. A total of 67 messages and graphics were tested. The focus groups were mainly smokers including potential quitters and staunch smokers. The participants came from a cross section of age groups including youth smokers and potential smokers.

The study was split into three phases of research.

Phase 1 - Nineteen focus groups were studied in Oct 1999. The ages of the participants ranged from 13-14 year olds to those aged 31 and over. The 13-16 year olds included a mixture of smokers and potential smokers. The older groups were made up entirely of smokers. A total of 18 new warning messages assessed in phase 1.

Phase 2 - Ten focus groups were studied in Oct 1999. The structure of the groups was the same as for phase 1. A total of 29 new messages were assessed.

Phase 3 - Six focus groups were studied in December 1999. Twenty messages were assessed plus the concept of messages on the side and flip parts of the pack.. Additionally, 11 cessation and health info messages that might be used on the side of the pack were assessed. The compositions of the focus groups in phase 3 were:

- 1 group of 17-19 years smokers
- 2 groups of potential quitters aged 20-30
- 3 groups of potential quitters aged 30+

The participants were probed in the group discussions in order to assess their awareness of the health risks of smoking and also awareness and recall of the current health warning messages. The report concluded that:

- There was a widespread broad awareness of the health risks of smoking.
- There was widespread awareness of the current text warning messages
- Most participants could recall specific messages
- The vast majority thought packs should include health messages
- Many thought current messages had little impact in getting smokers to quit.
- Some thought the messages were drab and repetitive
- Some thought messages may have lost impact over time.
- Most thought messages help remind smokers about health damage and may discourage people from starting to smoke

A number of possible new larger health warning messages featuring colour photos were shown to the participants in the group discussions. The overall impressions of the new GHWs were:

- Most thought these were an improvement on the old ones
- Teenagers were impressed with the use of pictures

- Some sceptical as to how much effect the graphics would have on smoking rate.
- Most participants thought the messages showed valuable info which could have an impact on certain populations e.g pregnant smokers, teens thinking about starting, smokers thinking of quitting

The report splits the 67 new messages into 4 categories and provides an overview of the reaction of the participants to messages in each category.

Category C - Messages about children – There were 16 warnings in this category. Typical examples of the warnings included:

‘Tobacco Smoke kills babies’ with a graphic of a baby surrounded by smoke.

‘Smoking poisons children’ with a graphic of a girl coughing, surrounded by smoke.

The report concluded that this category of messages would be effective in certain segments of the population, particularly adult women and parents of small children. These warnings make smokers more sensitive to the notion that smoking may be harming their families.

Category D - Messages about disease, death and cessation – 35 messages were included in this category and examples of disease messages included:

‘Smokers often die hard deaths’ accompanied by a picture of blackened diseased lungs.

‘Smoking causes lung cancer’ with a picture of a man hooked up to a respirator

‘Cigarettes cause mouth cancer’ with a picture of a diseased mouth

The focus group participants were particularly receptive to the messages about lung cancer. The mouth cancer warnings with pictures of a diseased mouth were among the most sensational and memorable of the tested messages. Many smokers said it made them want to quit smoking straight away.

Messages about poisons and toxins were described in category D. For example:

‘Cigarette smoking is poisonous’ with pictures of containers of specific poisons

‘Cigarette smoke contains poisons’ with a picture of an oil drum.

‘Smoking produces carbon monoxide’ with a picture of a man using an oxygen tank

‘Cigarette smoke contains formaldehyde’ with a picture of a bottle of formaldehyde.

The report states that these messages were quite effective as young people in particular are concerned about additives in food, and environmental degradation. Many of the participants believed that most toxins in cigarettes are added by the manufacturers rather than occurring naturally in tobacco.

Other messages about death from cigarettes were included in Category D. The report states that as the messages in this group were so different from each other it was not possible to make generalised comments. Examples of messages included in this category were:

'Smoking kills' with a picture of mourners at a graveside – this was seen as a sad sobering message among older people but teenagers found it hard to relate to the image.

'Smoking is a killer' accompanied with a picture of a lit cigarette in an ashtray and statistics on smoking related deaths. Some participants questioned the reliability of the statistical data, and many thought the sight of a lit cigarette made them want to smoke.

Some messages about cessation were included in category D. The following examples were accompanied by a picture of a crumpled pack of cigarettes.

- 'Quit for the health of it, 24 hours – heart attack risk is cut'*
- 'Quit for the health of it, 1 year – heart disease risk cut in half'*
- 'Quit for the health of it, 5 years – lung cancer risk cut in half'*
- 'Quit for the health of it, 10-15 years – risk like a non-smoker'*

These received fairly positive responses mainly because they conveyed positive messages about the benefits of quitting smoking. However, the report mentioned that these warnings may present a potential problem with younger smokers, as such smokers may conclude that they can quit some time later in life and any damage will then fade away. Many participants thought that whilst the 'quit for health' headline was good the graphic didn't enhance the message.

Category ETS - Messages about the Environmental Effects of Tobacco – 8 messages were listed in this category. These included:

- 'Even second hand smoke kills'* with a picture of a woman smoking directly into the face of a man.
- 'Where there's smoke there's poison'* with a picture of billowing smoke.

The participants were not particularly motivated by messages about ETS. Some thought ETS messages would provide ammunition for non-smokers to pressurise smokers. Some also thought that the ETS issue had been exaggerated.

Category A - Messages about Addiction – 3 messages dealt with the issue of addiction.

- 'Don't become addicted'* with a picture of a woman with a hole in her throat smoking a cigarette'
- 'Don't get addicted'* this was a text only message
- 'Stop before you start'* accompanied with a picture of a man smoking offering a cigarette to another man.

These were generally well received by the participants, particularly those adult smokers who had made unsuccessful attempts to quit.

Other Messages – 5 other messages were tested. 4 of these were headed *'be a sport'* and were accompanied with a picture of a basketball player, hockey player, woman athlete or a roller blader. The fifth message was *'Don't let smoking drag you down'* and was accompanied by a picture of a man smoking. These messages were thought to be O.K by the majority of the participants.

In phase 3 of the study, the focus groups also looked at the concept of including messages on the flip and side portions of the cigarette packs. There was widespread acceptance to the idea of messages on the flip and side of packs. The participants particularly favoured messages about cessation on the flip or side of packs.

A.3 RESEARCH CONDUCTED FOR THE AUSTRALIAN DEPARTMENT OF HEALTH AND AGEING

Full reports of the Australian studies are available on the Australian Dept of Health and Ageing website (www.health.gov.au/pubhlth/strateg/drugs/tobacco/warnings.html).

A.3.1 - SHANAHAN , NOVEMBER 2000 - EVALUATION OF THE HEALTH WARNINGS AND EXPLANATORY HEALTH MESSAGES ON TOBACCO PRODUCTS.

This report was produced for the Australian Department of Health and consisted of two phases:

1. A literature review of research studies of tobacco health warnings together with a qualitative study comprising 8 group discussions, 2 mini group discussions and 6 paired interviews. The study included committed smokers, contemplating quitters and recent ex-smokers. Additionally a series of 7 interviews were conducted with experts/stakeholders in the health field.
2. A survey of 1204 Australians subdivided into groups of smokers, recent ex-smokers (quit within the last 12 months), ex-smokers who had quit for over 12 months and non-smokers. Data from this 2000 survey was compared with that obtained from a baseline survey conducted in 1996.

The literature review was based on research conducted between 1996 and 2000. It highlighted a number of studies that had identified the difficulties in determining the effectiveness of health warning labels. These included problems with attributing changes in attitudes or smoking behaviour to health warnings, and separating the influence of health warnings from other tobacco control activities on reducing smoking incidences.

Only one of the reviewed studies was directly related to GHWs. This study was conducted in 1999 by Informa Market Research in Canada. Shanahan concluded that this research study indicated that strongly worded warning messages supported by emotionally strong photos increased the relative influence of the health warnings.

The main findings of the group discussions and the survey were:

- Health warnings on packs were necessary and represented an important element in overall tobacco control. There had been no change from 1996 to 2000 in the numbers of recent and long term ex-smokers and non-smokers who thought HWs were very important. However there was a slight increase in 2000 in the number of smokers who thought HWs were important.
- 98% of smokers in both 1996 and 2000 were aware of the HWs on the front of cigarette packs.

- There was a slight decrease in 2000 in the number of smokers and recent ex-smokers who were aware of the health information on the side of the packs. In contrast there was increase in the awareness of side of pack information in the long term ex-smokers. A similar result was obtained for health information contained on the back of the packs.
- There was a strong belief that the existing warnings had ‘worn out’ and had lost their initial novelty and attraction.
- Whilst many respondents believed the information contained in the HWs many thought it was old hat and didn’t represent any new information.
- Many respondents claimed that the inclusion of marketing information on packs and brand imagery competes with the HWs for smoker attention.
- Familiarity with existing HWs resulted in them being taken for granted
- The number of respondents claiming to have read the HW information on the front of the pack was unchanged from 1996 to 2000 with around 93-95% of smokers claiming they had read the information on the front of the packs. There was a small decline from 1996 to 2000 in the numbers of smokers and recent ex-smokers who claimed to have read the health information on the side of the packs. A similar decline was observed in the number of smokers reading the information on the back of the packs.
- Information on the back of packs was criticised as being too small in type size and too much information to read.
- Unaided and aided recall of the six current health warnings on the front of the packs was unchanged from 1996 to 2000. The most frequently recalled messages were smoking causes lung cancer (50% unaided recall, 94% aided recall), smoking when pregnant harms your baby (65% unaided, 93% aided), and smoking kills (41% unaided, 88% aided).
- Warnings about the addictive nature of cigarette smoke were deemed to be less effective, because a) smokers felt this was information they already knew and for some it promoted a feeling of hopelessness and defeat.
- 24% of smokers in 2000 (21% in 1996) did not know the tar yield of their regular brand of cigarette and 37% of smokers in 2000 (43% in 1996) didn’t know the nicotine yield
- Comments made in the group discussions suggested that information on yields and ingredients (side of packs) had more meaning for those smokers intending to cut down on smoking.
- Most smokers thought that technical names of chemical components (e.g HCN) were meaningless as they couldn’t easily determine the potential harm of some of the ingredients. The listing of some ingredients e.g spices and cloves in Indonesian cigarettes gave the impression of a healthier cigarette.
- There was no evidence in a decline in the impact of HWs on knowledge and behaviour from 1996 to 2000. 54% of smokers in 2000 (56% in 1996) agreed that the HWs raised their concerns about smoking and 32% (29% in 1996) claimed that their knowledge about the health effects of tobacco had increase a lot as a result of HWs.
- There were small increases from 1996 to 2000 in the number of smokers who demonstrated an intention to quit within the next month (14% in 2000, 12% in 1996), or next six months (32% in 2000, 27% in 1996).
- Many of the participants in the group discussions thought that the health warnings should be made stronger by:

- Enlarging the size of the warnings
- Increasing the space devoted to the warnings
- Changing the colour of the warnings
- Changing the position of the warnings e.g across the middle of the pack
- Making the pack more generic by removing much of the brand imagery
- Incorporation of graphic images
- Including pack inserts containing information on quitting, nicotine replacement therapy etc
- Introduction of new warnings on a more regular basis
- The use of more personalised information
- The use of more gender and age specific messages
- The use of positive messages to support quitting

The results from the discussions with the smoking and health experts/stakeholders were as follows:

- All thought it was time to revise and refresh the HWs
- They felt that the current warnings didn't provide enough information to enable smokers to make informed decisions.
- Cigarette packs should have more substantial labelling of ingredients
- Labels should be changed on a more regular basis
- They were very supportive of the Canadian graphic health warnings
- They believed that the Canadian GHWs engaged the attention of smokers more effectively than text based warnings.
- Many were excited and motivated by the Canadian GHWs
- They felt that denial amongst smokers would be more difficult with graphic images
- They believed that consumers were requesting more details about the contents of products in general and this should be extended to cigarettes
- Although they were impressed with the Canadian GHWs they felt that conclusive research should be conducted before graphics are used on Australian cigarettes.

The report concluded that health warnings on cigarette packs were still regarded as an important component of an anti smoking communication strategy. However it claimed that the awareness and readership of the Australian health warnings had, at best, remained constant over the period 1996 to 2000. Consequently the report recommended that new warnings were required in order to renew interest and increase readership levels. The report suggested the following areas for consideration:

1. As HWs are considered as just one component in the communication package on smoking and health issues there would be value in linking health warning messages and information with the messages conveyed by current anti-smoking campaigns.
2. Quitline phone numbers and help and advice on quitting should be included on or in the pack.
3. The addition of information on packs about the negative damaging ingredients in cigarettes should be considered. However, this info should not be too

technical and should avoid mentioning ingredients which could be interpreted as being positive in health effects.

4. The HWs should be made stronger and the following pack changes were offered for consideration:
 - a. Enlarging the size of warnings and increasing the area of the warnings on the pack
 - b. Make the pack design more generic in appearance
 - c. Introduction of graphics preferably linked to graphics used in other communication mediums
 - d. Introduce new warnings e.g those relating to blindness, SIDS and delay in healing
 - e. More frequent rotation of warnings or introduction of new warnings in order to maintain 'freshness'.
 - f. Personalise the messages
 - g. Produce gender and age specific messages
 - h. Consider the use of positive messages
 - i. Link the HW messages to anti-smoking campaigns.

A.3.2 - ELLIOTT AND SHANAHAN RESEARCH, SEPTEMBER 2002 ‘DEVELOPMENTAL RESEARCH FOR NEW AUSTRALIAN HEALTH WARNINGS ON TOBACCO PRODUCTS STAGE 1 – PREPARED FOR POPULATION HEALTH DIVISION DEPARTMENT OF HEALTH AND AGEING.

The objective of this study was to develop research to establish the response of consumers to new proposed Australian health warnings. The authors claimed that consumer reaction to and awareness of the most effective health warnings could be gauged in terms of:

- Noticeability
- Comprehensibility
- Believability
- Memorability
- Information provided
- Persuasiveness to quit or not to start smoking

The authors also measured the following:

- Attitudes to health warnings
- Awareness of current health warnings and messages
- Attitudes and beliefs about the information contained in the health warnings
- What factors trigger a response to cut down or quit smoking
- Reaction to alternative health warnings
- Reaction to the use of graphics in health warnings

The approach adopted in stage 1 of the research was to gauge the response to 19 health topics and messages with a view to reducing the number to 12-16 for evaluation in stage 2. It involved assessing the reaction to a range of graphic images and the authors intended to provide advice on revising the text or graphic messages for stage 2 of the studies.

44 mini discussion groups (4 to 5 respondents per group) were held in stage 1. The group structures were:

- 32 groups of current smokers
- 6 groups of recent ex-smokers (not smoked for 6-12 months)
- 2 groups of long term ex-smokers (not smoked > 12months)
- 4 groups of non-smokers

The ages of the participants ranged from 15 -70 and they were drawn from 4 regions, Sydney, Melbourne, Tamworth (NSW) and Bendigo (Victoria). The discussions were held in June 2002.

The participants were shown stimulus material including proposed health warnings, top of pack messages, and a range of graphics including those from Canada and Brazil. All the sessions used a moderator whose role was to raise important issues if they didn't come up spontaneously. The report provides an interpretation of the comments from the mini discussion groups but makes no attempt to assign numerical values.

Overall there was a positive response to the use of graphics in health warnings. Many people spontaneously raised the idea of using graphics. The most powerful graphics were:

A picture of a premature baby

A peripheral vascular disease graphic showing a gangrenous foot

Images of a diseased eye

These graphics enabled the participants to visualise the health effects of smoking.

In general the positive or negative responses to the different health messages and graphics were dependent on the attitudes, experience, age and gender of the participants. Younger smokers (15 – 17 age group) thought that smoking and health problems were a concern for the future so they didn't tend to personalise many of the warning messages. However, descriptive or emotive messages such as 'living breathing hell' and 'slow and painful death' produced an impact on this group. Smokers in their early 20's admitted to being addicted but considered it unlikely that the health effects of smoking would trouble them at their age. As with the 15-17 year group the emotive messages were the most effective in this group. Warnings about smoking and pregnancy were effective for the young females. The authors claimed that graphics generally had a positive impact in the younger smokers.

There was a wide range of responses from participants in the 25-49 age group. Those with families were influenced by messages about babies and children. Those approaching middle age were more concerned about the health effects of smoking, and warnings about specific health effects e.g lung cancer, heart diseases etc had some effects on most of this age group. Graphics produced a high impact in this group, particularly those depicting easily identifiable diseases e.g gangrenous foot, and diseased eye.

Smokers in the 50-70 age group had the most entrenched attitudes and behaviours towards smoking and health problems. Most thought that damage to their health had already occurred and it was too late to quit smoking. They didn't believe that health warnings would make them think about quitting and they were less positive about, and very dismissive of, health warnings. This group were less positive about graphics but thought they would be difficult to ignore and may act as a good deterrent to smoking for youngsters.

Non-smokers and ex-smokers generated the strongest anti-smoking attitudes and were very supportive of health warnings and graphics.

The authors produced the following conclusions from their stage 1 study:

1. Health warnings contribute to the growing environment of unacceptability of smoking.
2. Health warnings are a contributory factor in quitting but are not the sole motivating factor.
3. New graphics will generate controversy and keep the smoking and health issue 'high on the social issues agenda'.
4. New graphic health warnings encourage smokers to think more about smoking and health.

5. Health warnings should be rotated and their introduction staggered in order to both help maintain freshness and enable the warnings to be linked to media campaigns.

They produced a number of considerations for materials to be used in stage 2 of their research programme. They identified that graphics should be clear and recognisable with a variety of images and styles to maintain 'freshness' and minimise 'wear out'. They recommended that the images should clearly demonstrate the condition or disease mentioned in the health warning. It was also suggested that warnings generating fear should be balanced by others which relieve anxiety and some of the warnings should be designed to offer support and encouragement to smokers by offering them a way out of smoking.

A.3.3 - ELLIOTT AND SHANAHAN RESEARCH, AUGUST 2003 ‘DEVELOPMENTAL RESEARCH FOR NEW AUSTRALIAN HEALTH WARNINGS ON TOBACCO PRODUCTS STAGE 2 – PREPARED FOR POPULATION HEALTH DIVISION DEPARTMENT OF HEALTH AND AGEING.

This report describes the results of the 2nd stage of studies conducted by Elliott and Shanahan aimed at addressing the consumer response to proposed new Australian health warnings and messages on tobacco products. 20 mini-group discussions (4-5 participants in each group) were conducted in June/July 2003. The respondents were aged between 17 and 70. The 20 mini-discussion groups were made up as follows:

- 4 smoker groups and 2 non-smoker groups aged 15-17
- 4 smoker groups aged 18-14
- 4 smoker groups aged 25-34
- 4 smoker groups aged 35-49
- 2 smoker groups aged 50-70

Mock ups of pairs of cigarette packs were produced for the discussion groups. One member of each pair contained text warnings and the other contained text plus graphics. A total of 17 health warnings were used in the pairs of packs but one of the warnings used two different graphic images hence there were 18 mock-ups containing graphics.

The aim was to assess each warning in terms of:

- Noticeability
- Communication
- Comprehensibility
- Believability
- Memorability
- Information provided
- Size of label
- Persuasiveness of warning
- Whether graphics plus text were more effective than text alone
- Effectiveness of proposed side of pack messages (information on smoke chemicals and effects on health)

According to the report the group discussions were conducted in a relaxed and friendly atmosphere and a moderator was present at each session. One of the roles of the moderator was to focus attention on the specific points above if they did not arise spontaneously from the participants.

The participants were presented with pairs of packs (text alone vs text plus graphics) containing the 17 health warnings. The order of presentation of the pairs was randomised. Participants were given a questionnaire to complete for each pair of packs in order to compare the health information provided by text alone vs text plus graphics.

The main results were as follows:

- Those participants who were contemplating quitting reacted favourably to packs with graphic health warnings

- The so-called 'entrenched' smokers were more resistant to health warnings especially those incorporating graphics. These tended to be the older smokers.
- Graphics tended to reinforce the decision of young non-smokers not to start smoking.
- The response to health warnings relating to the more familiar health effects e.g lung cancer was not as dramatic as the response to those containing new information e.g peripheral vascular disease, throat cancer and meningococcal disease.
- Those participants who were parents of babies and/or young children reacted strongly to health warnings relating to babies and young children.
- Older smokers were more concerned about warnings pertaining to long term health effects e.g lung cancer and emphysema.
- Younger smokers found warnings relating to negative social consequences e.g unattractive face resulting from mouth and throat cancer, more convincing than those depicting longer term health consequences.

The overall reaction to the presence of graphics was that they produced a more dramatic response than text alone messages. In particular graphics:

- Conveyed information more strongly than text.
- Were harder for smokers to deflect the health message.
- Were controversial and difficult to ignore
- Were viewed as strong deterrents to starting smoking
- Generated controversy and discussions on smoking and health issues.
- Increased and reinforced awareness of the problems associated with smoking
- Aided memorability of the health effects of smoking
- Encouraged quitting
- Reinforced the social embarrassment of smoking

The report claimed that the most effective graphics were those depicting external visual effects e.g mouth and throat cancer, peripheral vascular disease (gangrenous foot) and blindness. The least effective were those which either had a less clearly defined visual image e.g a graphic about quitting, were difficult to understand, or did not have a powerful, evocative image.

According to the questionnaire results text message had less impact than text plus graphics for 16 from 18 of the messages. The exceptions were the 'slow and painful death' and the 'quitting' messages. Some of the smokers, mainly the older groups, preferred the text messages because they were less confrontational and less visibly embarrassing than graphics. These smokers also thought graphics messages were unfairly targeting smokers. Some smokers expressed the view that text only warnings had a greater impact than graphics when the message was brief and succinct especially when the associated graphics were not powerful or evocative.

The report listed a number of specific responses to graphics and these were listed as:

- They will cause many smokers to think about smoking
- They will encourage some smokers to seek ways of quitting
- They will further encourage those who are contemplating quitting
- Young people were more likely to admit that the graphics affected them.
- Non-smokers were less likely to consider starting smoking

Some older, 'hardened' smokers found graphics to be too confrontational and threatening and they may resort to avoidance behaviour e.g covering up the pack images

There was some evidence that younger smokers may treat packs containing GHWs as swap cards.

Some smokers said their behaviour would be more likely to be influenced by the cost of cigarettes rather than GHWs.

A number of shortcomings of GHWs were identified in the report. These were:

There were not enough positive messages to encourage smokers to quit or cut down consumption.

Some participants thought familiarity with the GHWs would lessen the shock impact of the images.

Some thought the warnings were too obvious and had less impact.

There was a view that there were too many disease conditions in the warnings and this could lower the credibility of the warnings.

Claims about diseases with tenuous links to smoking e.g meningococcal disease, could reflect badly on the credibility of all health claims.

There was a mixed response to the messages placed on the side of the packs. Young smokers had a more positive view than older smokers about side of pack information. The main criticisms of the side of pack information were that there was a lack of understanding of the chemical names of smoke constituents and there was no explanation about the specific effects of the individual chemicals.

The mock-up packs were devoid of ISO yield numbers and this caused an adverse response in many of the participants. Some made the point that the absence of yield numbers would create difficulty in smokers identifying the 'right strength of cigarette'. In general there was an unfavourable response to the removal of cigarette smoke yields from the packs.

APPENDIX B

ANALYSIS OF THE ENVIRONICS ‘WAVE STUDIES’ OF CONSUMER BEHAVIOUR AND ATTITUDES TO SMOKING AND HEALTH ISSUES BEFORE AND AFTER THE INTRODUCTION OF GRAPHIC HEALTH WARNINGS IN CANADA

B.1 BACKGROUND

Health Canada introduced Graphic Health Warnings (GHW) on cigarette packs of the major brands in January 2001 and on all brands from the end of June 2001. Prior to the introduction of the GHWs, Health Canada commissioned a base-line survey of Canadians aimed at obtaining data on smoking incidence, cigarette consumption, awareness of smoking and health issues, quitting intent etc. Their intention was to conduct the base-line survey and then conduct follow-up surveys after the introduction of the GHWs. The Environics Research Group Ltd conducted the base-line and follow-up surveys for Health Canada.

Surveys were conducted at the following times:

- Wave 1 - Nov/Dec 2000 (baseline survey)
- Wave 2 - March/April 2001 (initial survey post GHW launch)
- Wave 3 - July 2001
- Wave 4 - Nov/Dec 2001
- Wave 5 - July 2002
- Wave 6 - Dec 2002

The report of the Wave 1 (base-line) survey was posted on the Health Canada website shortly after the report was completed by Environics. Thus far, none of the post GHW reports have appeared on the HC website, however, these reports have recently been obtained by Imperial Canada through the freedom of information act. .

It could be argued that a successful impact of the introduction of GHWs on tobacco control would be:

- a) Reduction in the proportion of smokers in the Canadian population
- b) Reduction in the daily cigarette consumption rates of smokers
- c) Increase in the quitting rates
- d) Increased awareness of smoking and health issues

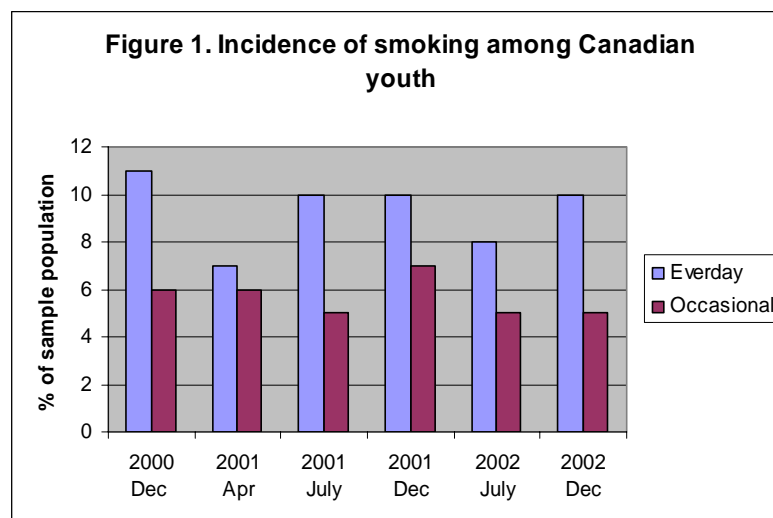
The objective of this note is to assess the data contained in the reports of the surveys in terms of the above criteria. The Reports contain large numbers of tables which provide sufficient information to determine the presence or absence of ‘visual trends’ in the various smoking behaviour and attitudinal attributes following the introduction of GHWs. The Survey Reports occasionally refer to analyses of subgroups of smokers e.g grouped according to sex, age, attitudes to quitting etc. However, as the Reports do not contain data from the smoker subgroups it has not been possible to review this aspect of the Reports.

B.2 SURVEYS OF CANADIAN YOUTH

The surveys of youth aged 12 to 18 years included both smokers and non-smokers. The sample size was approximately 1000 for each of the six surveys.

B.2.1 Smoking Incidence – Youth

The respondents were asked the question “*At the present time, do you smoke cigarettes (manufactured or roll your own) every day, occasionally or not at all?*” The percentages of the sample populations who claimed to be everyday or occasional (less than every day) smokers are shown in figure 1.

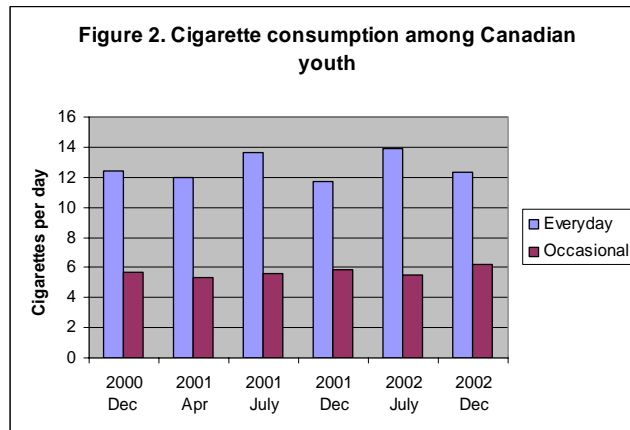


EnviroNics claim that a survey based on 1000 respondents is subject to a margin of error of approximately 3.1%. Thus it can be seen that the use of GHWs has not produced a trend of a significant decline in the incidence of smoking in Canadian Youth. It is possible that the reduced incidence of everyday smoking reported in the April 2001 survey may have been influenced by the introduction of the GHWs on the major brands in January 2001. However, if so, it is clear that such a reduction was reversed in the July 2001 survey.

B.2.2 Cigarette consumption rates – Youth smokers

The EnviroNics reports provide cigarette consumption data for the everyday and occasional smokers. Although the respondents were asked to provide absolute values for consumption rates, the data are presented as the % of smokers in the various consumption ranges i.e <10, 10-15, 16-20, 21-25 or >26 cigarettes per day. I have attempted to produce a composite consumption figure by using the quoted % of smokers and the mid points of the various ranges, except for the > 26 cigs per day range where I've used a value of 30 cigs per day:

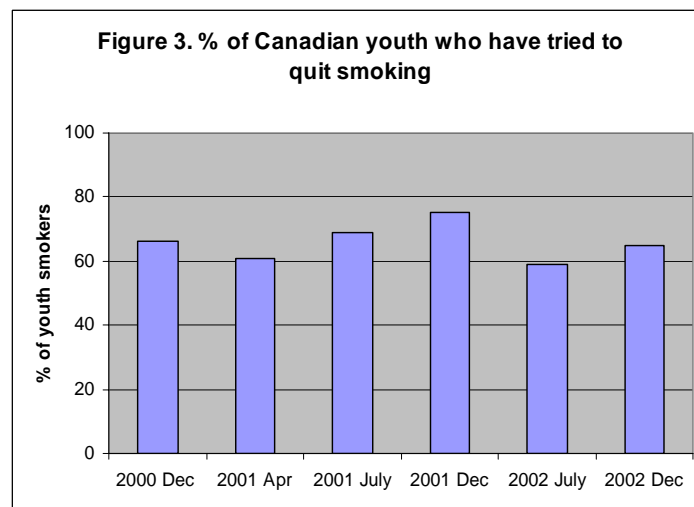
Figure 2 contains the derived cigarette consumption figures for the everyday and occasional smokers across the 6 surveys. The values for the occasional smokers relate to the average numbers of cigarettes consumed on those days when they smoked.



The data in figure 2 indicate no effect of the GHWs on daily cigarette consumption rates in the youth smokers.

B.2.3 Quit Attempts among Youth Smokers

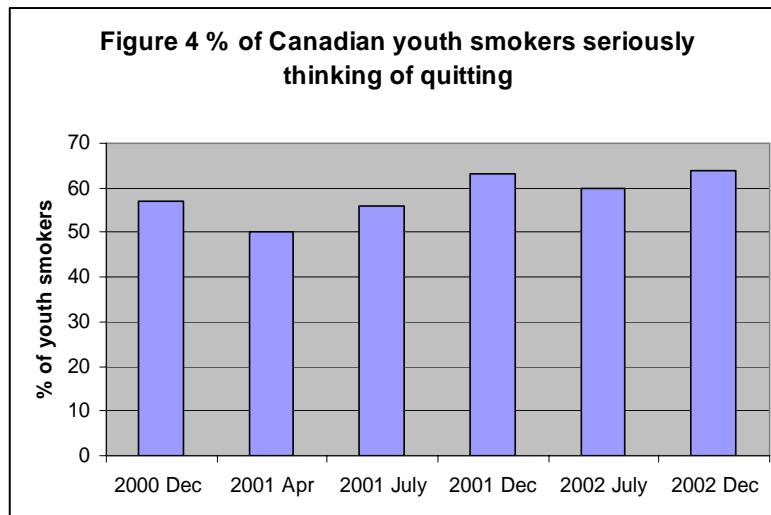
The smokers were asked the question “*Have you ever tried to quit smoking?*” The numbers of youth smokers who have made quit attempts are shown in figure 3.



EnviroNics express that these figures should be interpreted with caution as the sample sizes were relatively small. However, even a cautious interpretation fails to reveal any increased trend in the number of youth smokers making quit attempts following the introduction of GHWs in January 2001.

B.2.4 Potential Quitters – Youth Smokers

The smokers were asked if they were seriously thinking of quitting smoking. Figure 4 shows the % of youth smokers who answered yes to this question.

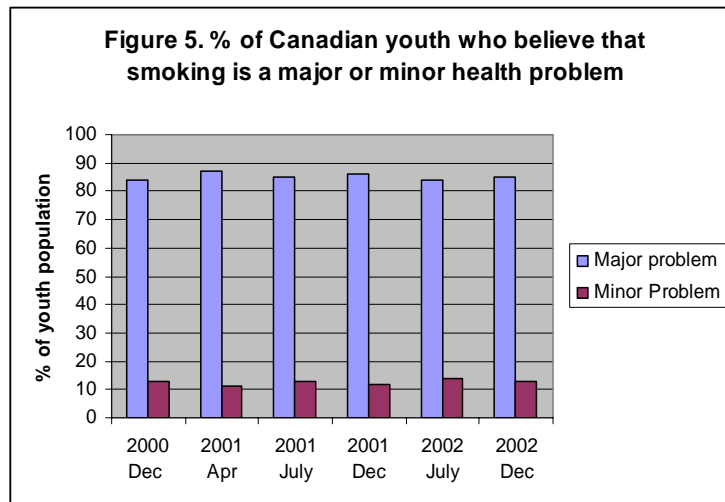


One could argue that the data in figure 4 supports the view that initially the introduction of GHWs had no effect on increasing the number of youth smokers seriously intending to quit, but approximately 1 year after introduction of GHWs, i.e., from Dec 2001 onwards, this number has tended to be consistently higher than at baseline.

If this intent data is predictive of actual behaviour one would expect to observe a relationship between the data in figures 3 and 4. For example, one of the highest intent to quit figures occurred in the Dec 2001 survey (63% compared with 57% in the baseline survey). If this data is meaningful one would have expected to see an increase in the number of youth smokers who had actually tried to quit reported in the following survey (i.e July 2002). However, this survey revealed the lowest number of youth smokers who had actually attempted to quit (59% compared with 66% at baseline). Similarly the July 2002 survey revealed a higher 'intent to quit' score than the baseline value, yet the numbers who claimed to have made a quit attempt in the Dec 2002 survey was no higher than baseline figures. The data appear to support the view that what people say they are going to do frequently doesn't relate to what they actually do.

B.2.5 Awareness of Health Effects of Smoking – Youth Surveys

As can be seen in figure 5, the introduction of GHWs has not influenced the opinions of Canadian youth about whether smoking is a major health problem, minor health problem, or not a health problem. There was a very high awareness among Canadian youth prior to the introduction of GHWs that smoking was a health problem as only 2% of the sample thought that smoking was not a health problem. This figure was still 2% in the most recent survey.



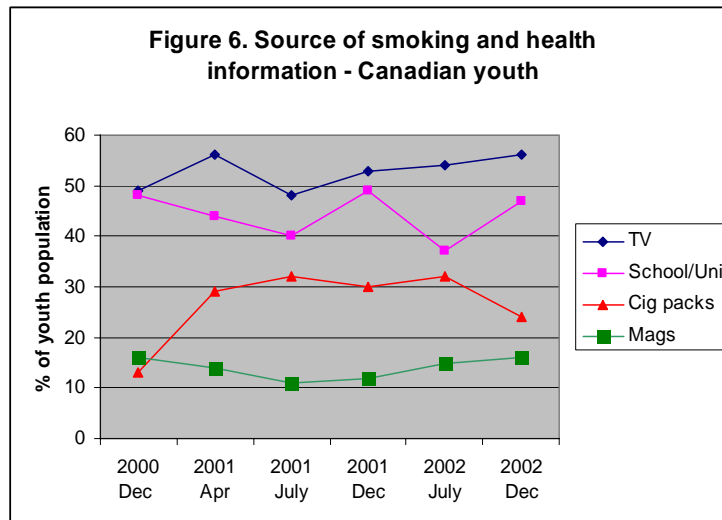
B.2.6 ‘Top of mind’ Health Problems – Youth Surveys

The youth respondents (smokers and non-smokers) were asked the following question: *“What specific human health effects or diseases, if any, can you think of that are caused by smoking cigarettes? Are there any others?”*

The top four answers were lung cancer, cancer in general, heart attack/disease/angina, and lung disease. The % of the youth population naming the above conditions has remained fairly constant over the duration of the 6 surveys. Interestingly, given the publicity surrounding 2 of the GHWs, namely gum/mouth/teeth disease and impotence/sexual dysfunction, the citation incidence for these disorders has not markedly increased following the introduction of GHWs. Gum and mouth disease was cited as a ‘top of mind’ health effect of smoking by 6% of the youth population in Dec 2002 (4% at baseline) and only 1% of the population cited impotence/sexual dysfunction as a ‘top of mind’ smoking related health problem.

B.2.7 Sources of Information about health effects of smoking– Youth surveys

Cigarette packages were the 4th most cited source of information about smoking and health in the baseline survey. Television (1st), school/university (2nd) and magazines (3rd) were the top 3 sources at baseline. In the surveys following the introduction of GHWs, cigarette packages moved into third place and as can be seen from figure 6 the citing of cigarette packages as a source of smoking and health information has been consistently higher after the introduction of GHWs than before.



B.2.8 Specific Health Effects of Smoking – Youth Surveys

In addition to the ‘top of mind’ recall of the health effects of smoking the youth respondents were asked if they strongly agreed, somewhat agreed, somewhat disagreed or strongly disagreed that smoking can cause a range of diseases. They were asked their opinions about 25 health conditions ranging from lung cancer and heart disease through to acne and gangrene. Only 4 from the 25 conditions exhibited a consistent increase in the strongly or somewhat agree responses following the introduction of the GHWs. The conditions were:

- Gum or mouth disease
- Stroke
- Impotence in men
- Infertility

Interestingly, these 4 health effects did not figure prominently as ‘top of mind’ conditions either in the base-line or post GHWs surveys.

B.2.9 Specific Health Effects of Second-Hand Smoke – Youth Surveys

The respondents were asked whether they agreed or disagreed whether second-hand smoke caused a range of diseases in non-smokers. Questions were asked about 11 disorders ranging from childhood conditions such as asthma and bronchitis to adult conditions such as arthritis and Alzheimer’s disease.

There was no evidence for a consistent increase following the introduction of GHWS in the strongly or somewhat agree ratings for any of the 11 conditions.

B.2.10 Causes of Death – Youth Surveys

The youth respondents were asked whether “*tobacco use kills more, fewer, or about the same number of Canadians each year as each of the following other causes of death*” The list of other causes comprised of, suicides, murders, alcohol, illegal drugs, car accidents and AIDS. The data showed small but consistent increases post GHWs

in the numbers of youth respondents who stated that tobacco causes more deaths than suicides, murders, alcohol or car accidents.

B.2.11 Recall and Reads of Health Warning Messages – Youth Surveys

The youth respondents were asked a series of questions about their assessment of the health warning messages on cigarette packs. They were initially asked if they could recall seeing the health warning messages on cigarette packs. 91% of the respondents (smokers and non-smokers) in the baseline survey claimed they had seen the health warnings. This figure has marginally increased (range 93% to 95%) in the surveys conducted after the introduction of GHWs. Given the 3% margin of error it is unlikely that this is a statistically significant effect.

A question was asked about how often the respondents look at or read the health warnings on packs. There was no evidence to suggest that the frequency of looking at health warnings has increased following the introduction of the GHWs.

The respondents were asked to recall what the health warning messages look like. This question was only asked in the surveys conducted after the launch of GHWs. The main answer in the initial surveys post GHW launch was that the warnings were pictures. In the most recent surveys the global answer ‘pictures’ has declined and there has been an increase in the number of youth respondents mentioning specific warnings e.g ‘pictures of lungs’, ‘pictures of mouth/teeth’, ‘pictures of pregnant women’.

Approximately 80% of the youth respondents stated that they thought the GHWs were more effective than the old warnings in informing them about the health effects of smoking and also in encouraging them not to start smoking. This figure has remained fairly constant over the 5 surveys post launch of the GHWs. Similarly, around 80% of the youth smokers stated that the GHWs were more effective than the previous warnings in getting them to try to quit, increasing their desire to quit, and getting them to smoke less.

B.2.12 Awareness of Toxic Substances – Youth Surveys

The youth respondents were asked to name any chemicals or toxic substances in cigarettes or cigarette smoke. This was classed as a ‘top of mind’ question as the respondents were not allowed to look at a cigarette pack before answering. The three most frequent answers in all of the youth surveys were nicotine (1st), tar (2nd) and CO (3rd). There has been a slight increase in the number of youth respondents citing chemicals such as HCN (<1% in 2000; 3% in Dec 2002), formaldehyde (1% in 2000; 3% in 2002) and benzene (1% in 2000; 3% in 2002). However this slight increase in the naming of these specific chemicals has been associated with decreases in the citation of tar and nicotine (48% in 2002; 42% in 2000).

The respondents were also asked to name chemicals or toxic substances listed on cigarette packs (without looking at a pack). There has been very little change in the response to this question over the 6 surveys. The naming of nicotine (23% in 2000 to 20% in 2002), tar (21% down to 19%) and CO (8% down to 6%) have decreased slightly from baseline. Whereas the citing of chemicals such as benzene (<1% up to

2%), HCN (<1% up to 2%) and formaldehyde (<1% up to 1%) has marginally increased over this period.

In the July and Dec 2002 surveys the youth were asked to name those chemicals in cigarettes or smoke that can cause disease or harm to health. Nicotine (19% in July and 24% in Dec), tar (21% and 22%) and CO (6% and 7%) were the most frequent answers. Chemicals such as benzene (1%), HCN (2%) and formaldehyde (1%) were cited by relatively small numbers of youth respondents. In the two 2002 surveys the respondents were asked if chemicals were added to cigarettes during manufacture. 65-68% said they were added and 12-15% believed that chemicals were not added to cigarettes.

Additional questions were asked in the Dec 2002 survey about awareness of a) messages on the slide portion of the cigarette packs; and b) information on the side of the cigarette packs. 18% of youth smokers claimed not have seen information on the sliding part of the cigarette pack and 25% of smokers didn't know about such information. 32% claimed the slides contained tips on how to stop smoking and 11% said they contained general health warnings. With regard to information about chemicals and toxic substances printed on the sides of packs 53% of youth smokers said it increased their desire to quit, 53% said it encouraged them to quit, 46% said it got them to smoke less and 23% said it got them to switch to a different cigarette brand/product.

B.2.13 Conclusions from the Youth Surveys

One can form the following conclusions from the Environics youth surveys:

- i) Although the introduction of GHWs did not increase the youth respondents' beliefs that smoking was a serious health problem, when prompted, the respondents claimed that the new GHWs were more effective than the previous text based warnings about providing information on the health effects of smoking.
- ii) When prompted, the respondents claimed that the new information on chemicals and toxic substances had increased their desire to quit smoking or smoke less.

However, these claims were not reflected in changes in smoking behaviour as:

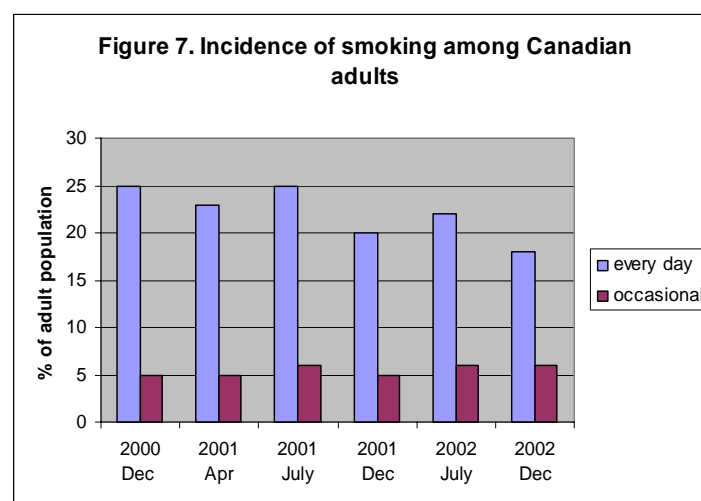
- i) GHWs have not produced a clear downward trend in smoking incidence among the Canadian youth populations sampled.
- ii) There was no effect on cigarette consumption rates in everyday or occasional smokers.
- iii) Although there was a small post-GHW increase in the numbers of youth smokers stating they intended to quit smoking, this was not reflected in the numbers of youth smokers who had made quit attempts.
- iv) Although the packs with GHWs contained additional information on chemicals in smoke (e.g HCN, formaldehyde, benzene etc) only very small numbers of Canadian youth cited these specific chemicals as being associated with the health effects of smoking.

B.3 SURVEYS OF ADULT CANADIANS

Each of the adult surveys recruited around 700 Canadians (smokers and non-smokers) from the general population and subsequently recruited additional smokers in order to obtain around 1000 smokers.

B.3.1 Smoking Incidence – Adults

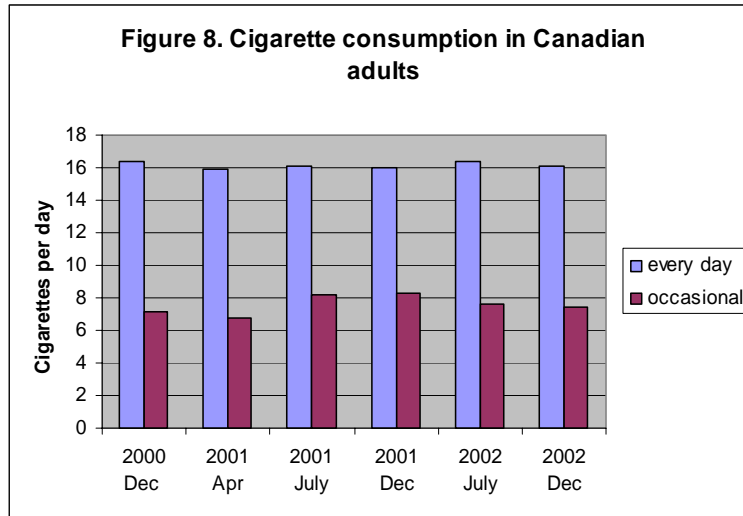
The smoking incidence data obtained from the Waves 1 to 6 surveys are shown in figure 7.



The two surveys conducted in April and July 2001 following the introduction of the GHWs did not indicate any meaningful changes in smoking incidence. However, from the Wave 4 survey (Dec 2001 onwards there appears to be a lower ‘every day’ smoking incidence than seen in the previous surveys. It is not possible to determine whether this change occurred as a response to an influence of GHWs or whether it was simply a continuation in the gradual decline in the number of smokers in Canada. There were no changes in the incidence of occasional smoking following the introduction of GHWs. Gospodinov and Irvine (2004) claimed that any effect of the introduction of GHWs on smoking prevalence would be discernable very quickly because if a consumer can successfully ignore a cue (such as new warnings) for the first few months of its presence, then they will be more likely to isolate themselves psychologically from it over a longer period. They analysed data from the CTUM surveys 2 periods, July-Dec 2000 (pre GHW) and Feb-June 2001 (post GHW) and concluded that the introduction of GHWs had not resulted in a change in the incidence of smoking. The results of Gospodinov and Irvine (2004) are very consistent with the analysis of the Environics data over similar time periods.

B.3.2 Cigarette consumption rates – adult smokers

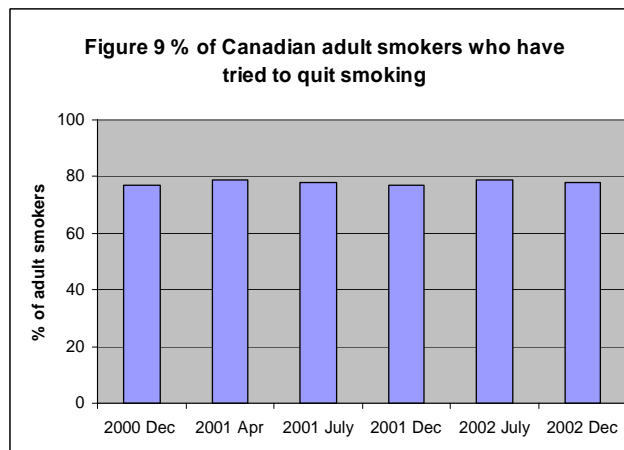
The cigarette consumption category data in the Environics reports have been converted into cigarettes per day for the everyday and occasional smokers using the approach outlined in section 2.2. The consumption data are presented in figure 8.



The data contained in figure 8 show relatively constant consumption rates for the everyday smokers both before and after the introduction of GHWs. There is an indication of a slight increase in consumption rates following the introduction of GHWs in the occasional smokers but the increase is small and unlikely to be significant.

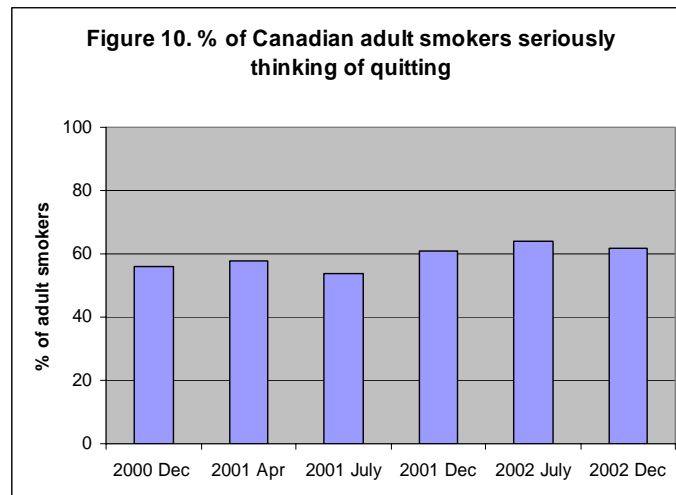
B.3.3 Quit Attempts – Adult Smokers

Figure 9 shows the number of adult smokers who claimed to have tried to quit smoking. Approximately 80% of the adult smokers claimed to have tried to quit smoking and this figure has not changed following the introduction of GHWs.



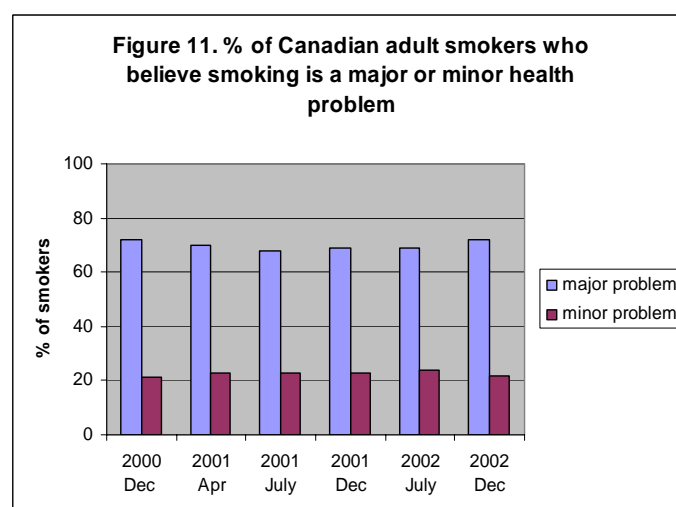
B.3.4 Potential Quitters – Adult smokers

Figure 10 shows the percentage of adult smokers who claim to be seriously thinking of quitting smoking.



There is an indication that the number of adult smokers seriously thinking of quitting has increased slightly above the baseline level from the Dec 2001 survey onwards. However this slight increase in the numbers who are thinking about quitting is not reflected in the numbers of smokers who subsequently attempted to quit. In other words the numbers who claimed to have tried to quit the in July 2002 and Dec 2002 surveys are the same as those in the baseline survey. Further evidence of no effect of the GHWs on quitting behaviour is contained in the Canadian Tobacco Use Monitor (CTUM) surveys. The number of former smokers in the sample populations used in the CTUM surveys (sample size ca 20,000 per survey) has remained constant over the period 1999 to 2002. One would have expected to see an increase in the numbers of former smokers in the 2001 and 2002 surveys if the introduction of GHWs had encouraged smokers to quit.

B.3.5 Awareness of the Health Effects of Smoking –Adult surveys



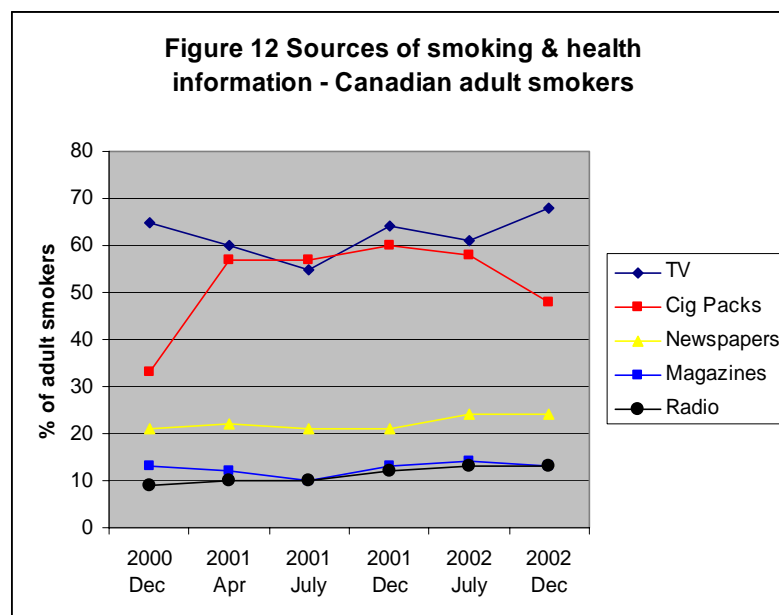
As can be seen in figure 11 the introduction of GHWs has not been associated with a change in the numbers of Canadian adult smokers who believe smoking is a major or a minor health problem.

B.3.6 ‘Top of mind’ health effects of smoking –Adult surveys

The adult respondents were asked if they could recall specific health effects that can be caused by smoking. Forty seven ‘top of mind’ health effects were cited by the respondents. The top 5 effects for both the general population and the smokers group were, lung cancer, cancer in general, heart attack/disease, emphysema, lung disease (unspecified). The numbers of respondents citing the various effects and diseases have remained fairly constant over the period before and after the introduction of GHWs, except for the citations of cancer in general, heart attack/disease and oral cancer. There appears to have been a small but consistent increase post GHWs in the numbers of smokers and non-smokers who have cited these three conditions as being caused by smoking.

B.3.7 Sources of Information about health effects of smoking– Adult surveys

The main sources of information about smoking and health for the adult smokers in the surveys are shown in figure 12.

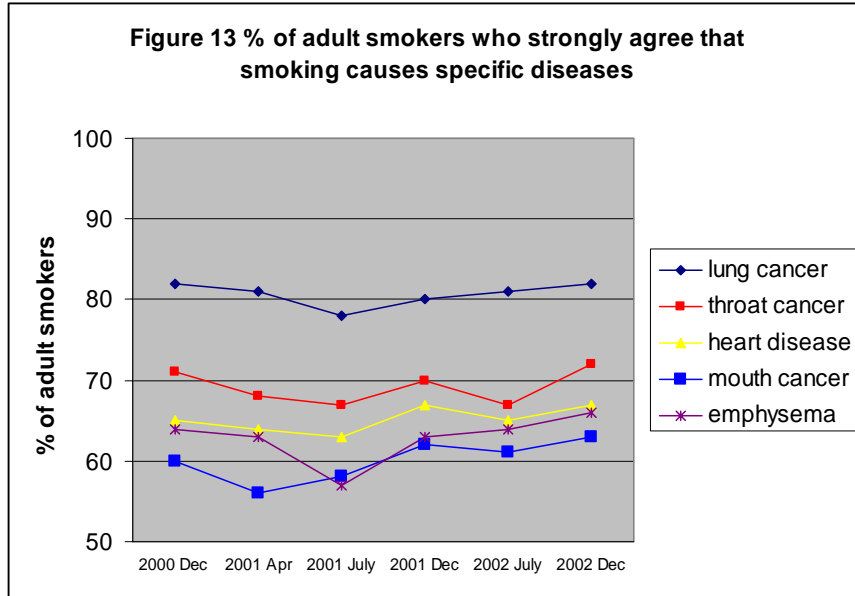


There was a clear increase following the introduction of GHWs in the number of adult smokers who cite cigarette packs as a source of information about the health effects of smoking. However, the most recent survey (Dec 2002) indicates a fall-off in the numbers of smokers who cite cigarette packs as a source of information. A similar trend was also observed in the adult non-smokers.

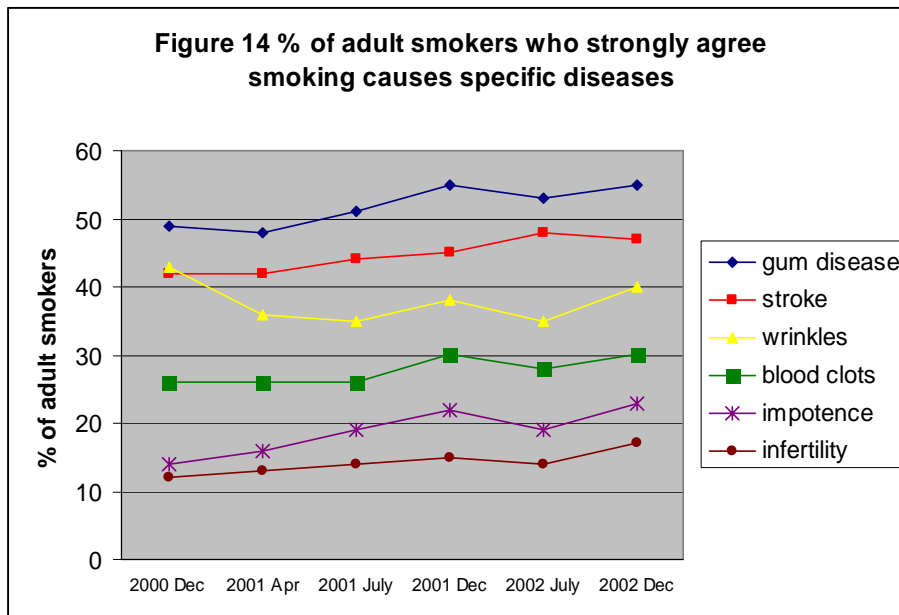
B.3.8 Specific Health Effects of Smoking – Adult Surveys

The adult respondents were presented with a list of 25 diseases or conditions and were asked if they agreed or disagreed that smoking could cause these disorders. Lung

cancer, throat cancer, heart disease, mouth cancer and emphysema were the top 5 diseases which adult smokers and non smokers strongly believed are caused by smoking. There was no evidence to suggest that the introduction in GHWs had changed the views of the respondents about the role of smoking in these “top 5” diseases. Figure 13 shows the responses of the adult smokers for these 5 diseases.



There were apparent trends post introduction of GHWs for 6 conditions and these are shown in figure 14.



The ‘strongly agree responses’ were marginally increased from baseline for gum disease, stroke, blood clots, male impotence, and infertility. There were slight decreases in the ‘strongly agree’ responses for wrinkles and premature aging. Interestingly, these trends seen in smokers were not reflected in the general populations of the surveys. The only trends observed in the general population were

decreases from baseline in the numbers who strongly agreed that smoking caused throat cancer, asthma, wrinkles and premature aging, miscarriages, blood clots, stomach ulcers, bladder cancer, gangrene, acne, Multiple Sclerosis and Alzheimer's Disease.

B.3.9 Specific Health Effects of Second-Hand Smoke – Adult Surveys

The Canadian adults were asked if they agreed or disagreed with the view that exposure to second hand smoke causes a range of 11 diseases/conditions in non-smokers. There was no evidence of post GHW increases in the number of Canadian adults agreeing that second hand smoke causes specific health effects, apart from lung cancer in non-smokers. Paradoxically there appeared to be decreases following the introduction of GHWs in the number of smokers and non-smokers strongly agreeing that second-hand smoke causes bronchitis, chest infections and ear infections in children; heart disease, strokes, Alzheimer's, arthritis and Multiple Sclerosis in non-smoking adults. With regard to lung cancer in non smokers, there was an initial post GHW decrease in the number of adults who thought that smoking was a cause of this disease in non smokers. The numbers dropped from 59% of the general population in Dec 2000 to 51% in July 2002. However there was a large increase to 64% in the most recent survey (Dec 2002).

B.3.10 Causes of Death – Adult Surveys

There was a modest but consistent post GHW increase in the number of respondents (both smokers and non-smokers) who thought that tobacco use kills more Canadians each year than murders, suicides and car accidents. There was no evidence of any consistent trends in the other comparisons e.g deaths from illegal drugs, AIDS, and alcohol. However, there were relatively large increases in the numbers of smokers in the Dec 2002 survey who cited smoking as a bigger cause of death than illegal drugs or alcohol.

B.3.11 Recall and Reads of Health Warning Messages – Adult Surveys

90% of respondents in the general population claimed to have seen health warnings on cigarette packs prior to the introduction of GHWs. This figure has remained unchanged since the introduction of GHWs. Virtually all of the smokers in the surveys recalled seeing health warning messages on packs irrespective whether they were GHWs or the previous text warnings.

The number of smokers who claimed to have seen the GHWs on their main brand of cigarette rose from 60% in Mar/April 2001 to 96% in the Nov/Dec 2002 survey.

A question was asked about how often the respondents look at or read the health warnings on packs. There appears to be a post GHW decrease in the number of smokers who look at or read the health warnings on packs several times a day. There has also been a post GHW increase in the number of smokers (and non-smokers) who never look at, or read these warnings.

The respondents were asked to recall what the health warning messages look like. This question was only asked in the surveys conducted after the launch of GHWs. The results from the adult surveys were similar to those from the youth with the main answer in the initial post GHW launch survey being “pictures”. In the most recent surveys the global answer ‘pictures’ has declined and there has been an increase in the number of adult respondents mentioning specific warnings e.g ‘pictures of lungs’, and ‘pictures of mouth/teeth’.

Approximately 60% of the adult smokers in the surveys from Dec 2001 to Dec 2002 stated that they thought the GHWs were more effective than the old warnings “in getting you to try to quit smoking”, “in increasing your desire to quit” and “in getting you to smoke less”. However, when asked if the GHWs have been effective “in getting you to try to quit smoking” only 18% of smokers in the most recent survey (Dec 2002) said they were very effective whereas 34% claimed they were not at all effective. Similar figures (16% very effective and 35% not at all effective) were obtained in response to the question “getting you to smoke less”.

B.3.12 Awareness of Toxic Substances – Adult Surveys

The respondents were asked without looking at anything, what, if any of the toxic substances can they name in cigarette smoke. The most frequent answers in all four surveys were nicotine (1st), tar (2nd) and CO (3rd). The number of respondents citing specific compounds such as arsenic, benzene, hydrogen cyanide and formaldehyde has risen slightly following the introduction of GHWs e.g 2% of the respondents mentioned benzene in the Dec 2000 survey and had risen to 5% in the Dec 2002 survey). However, among the smokers, this increase in the naming of specific compounds appears to be associated with a reduction in the numbers of smokers mentioning tar as a component of cigarette smoke.

The adult respondents were also asked to name any chemicals or toxic substances listed on cigarette packs (without looking at a pack). The top 3 answers were nicotine, tar and CO. The number of smokers naming tar and nicotine has declined from baseline to Dec 2002 (nicotine 56% to 51%; tar 54% to 50%). There were increases from baseline to Dec 2002 in the number of smokers naming hydrogen cyanide (<1% to 8%), formaldehyde (<1% to 7%) and benzene (<1% to 6%).

Respondents in the July and Dec 2002 surveys were asked additional questions about chemicals in cigarettes. They were asked to name what substances in cigarettes, in tobacco or in smoking cause disease or harm health. Around 40% of smokers named tar and nicotine and 18% of smokers named carbon monoxide. Much smaller numbers mentioned hydrogen cyanine (7-8%), benzene (4-5%) and formaldehyde (5%). Around 20% of the smokers claimed that all the chemicals in smoke cause harm and another 20% of smokers offered no opinion. The July and Dec 2002 respondents were also asked if any chemicals are added to tobacco during cigarette manufacture. Around 70% of smokers believed that chemicals are added, and 11-14% thought that chemicals were not added.

Additional questions were asked in the Dec 2002 survey about information on the back of the slide portion of a cigarette pack and the impact of chemical information on aspects of smoking behaviour. When asked if they could recall anything on the

slide portion of the pack the majority of smokers said they either hadn't seen anything (27%) or didn't know (29%). 15% of smokers claimed to have seen tips to stop smoking and 7% claimed to have seen health warnings in general.

The smokers in the Dec 2002 survey were asked if the information about chemicals and toxic substances on the side of cigarette packs had influenced their behaviour. 36% answered yes to the question "has it encouraged you to try to quit smoking", 32% yes to "increased your desire to quit smoking", 34% yes to "got you to smoke less" and 19% yes to "got you to switch to a different cigarette brand/product.

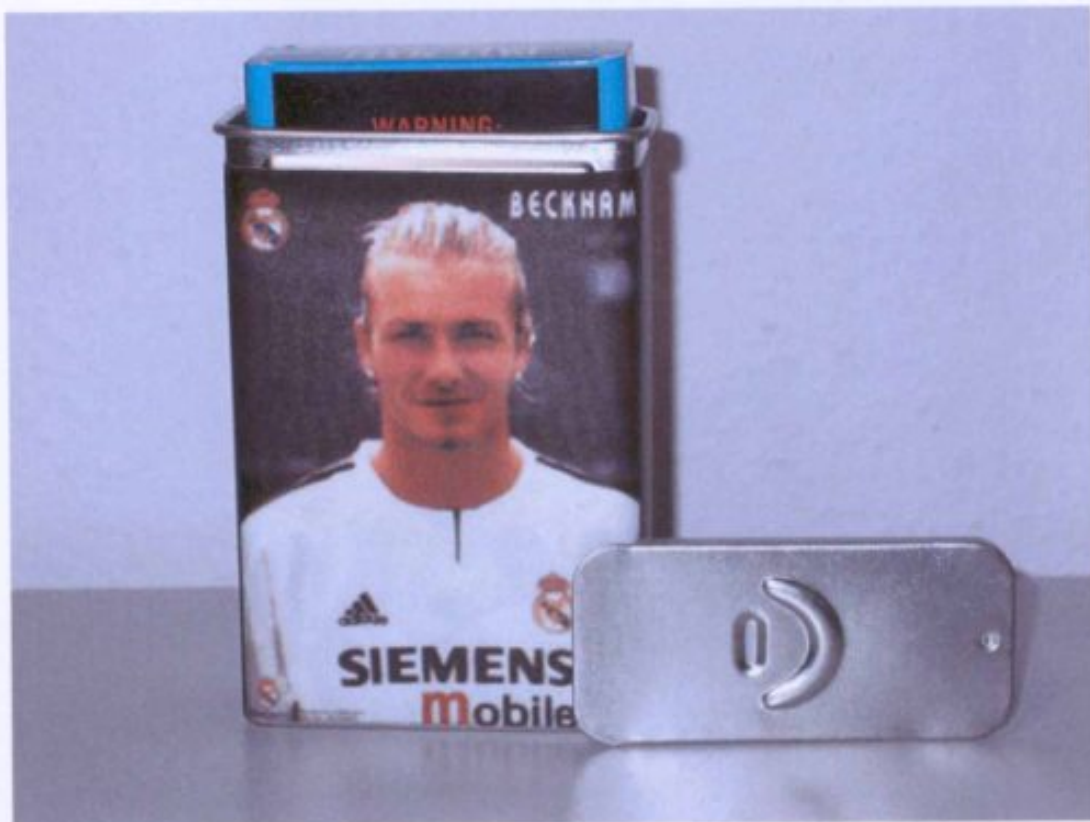
B.3.13 Conclusions from the Adult surveys

The key conclusions from the adult surveys are as follows:

1. There has been a gradual downward trend in the numbers of 'everyday' smokers in the Environics surveys from Dec 2000 to Dec 2002. This appears to be a continuation of the general decline in smoking incidence seen in Canada over the past decade.
2. The cigarette consumption rates among 'everyday' and occasional smokers have remained constant over the 6 surveys. Thus there is no evidence of an influence of GHWs on cigarette consumption rates.
3. Although there was a slight post GHW in the numbers of smokers claiming that they were seriously contemplating quitting this was not reflected in subsequent surveys by an increase in the numbers of smokers who claimed to have made quit attempts.
4. The number of smokers who believe smoking causes serious health problems has not increased following the introduction of GHWs.
5. The majority of smokers in the surveys believed that the GHWs were more effective than the old warnings in encouraging smokers, in general, to quit or smoke less. However, only a small minority of smokers claimed that the warnings were actually effective in encouraging themselves to quit or smoke less.
6. The information on chemicals such as benzene, formaldehyde and HCN now incorporated into the GHWs and text on the slides and sides of packs appears to have produced only a small influence on the numbers of smokers who cited these specific chemicals as being components of smoke that produce disease or harm to health.

Mike Dixon 11/2/05

ANNEXURE E



ANNEXURE E

