Chapter 1 Tobacco Labeling Toolkit

EVIDENCE REVIEW

Prepared by:

David Hammond
Department of Health Studies
University of Waterloo, Canada

February 2009

This chapter is taken from the **Tobacco labelling and packaging toolkit**.

A complete copy of this toolkit and additional resources are available at: www.tobaccolabels.org , or by contacting the author directly:

David Hammond
Department of Health Studies
University of Waterloo
200 University Ave West
Waterloo, ON
Canada N2L 3G1
Email: dhammond@uwaterloo.ca

Financial support for this work was provided by Tobacco Control at The Union (International Union Against Tuberculosis and Lung Disease) www.tobaccofreeunion.org

THE PACKAGE

Packaging is an important component in the overall marketing strategy of consumer goods.[1,2,3] Packaging helps to establish brand identity in competitive markets and serves as an effective form of promotion both at the point of purchase and while the product is being used.[4,5,6] Packaging is particularly important for consumer products such as cigarettes, which have a high degree of social visibility.[7,8] Unlike many other consumer products, cigarette packages are displayed each time the product is used and are often left in public view between uses.[9] As John Digianni, a former cigarette package designer noted: "A cigarette package is unique because the consumer carries it around with him all day…It's a part of a smoker's clothing, and when he saunters into a bar and plunks it down, he makes a statement about himself."[10] As a result, the package serves as a "badge" product, and an important form of advertising in its own right.[7]

Brown & Williamson (1985)

"… if you smoke, a cigarette pack is one of the few things you use regularly that makes a statement about you. A cigarette pack is the only thing you take out of your pocket 20 times a day and lay out for everyone to see. That's a lot different than buying your soap powder in generic packaging."[11]

British American Tobacco (1978)

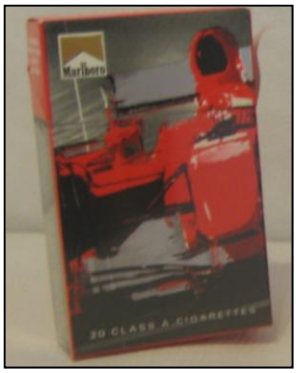
"One of every two smokers is not able to distinguish in blind (masked) tests between similar cigarettes …for most smokers and the decisive group of new, younger smokers, the consumer's choice is dictated more by psychological, image factors than by relatively minor differences in smoking characteristics."[12]

Packaging and other forms of marketing

Cigarette packages also serve as an important link to other forms of tobacco advertising.[13] Package designs help to reinforce brand imagery that is communicated through other media, and play a central role in point of purchase marketing, which

now accounts for a majority of the industry's promotional spending in Canada and the US.[14] Indeed, cigarette "power walls"—rows of cigarette packages prominently displayed behind retail counters—have been shown to be an effective form of marketing, particularly among youth and young adults.[15] Moreover, the marketing value of the cigarette package increases as other forms of marketing are restricted.[16,17] Internal documents from British American Tobacco also indicate that packages have been designed to compensate for restricted forms of advertising: "… given the consequences of a total ban on advertising, a pack should be designed to give the product visual impact as well as brand imagery. . . The pack itself can be designed so that it achieves more visual impact in the point of sale environment than its competitors."[18] Imperial Tobacco Canada, a wholly owned subsidiary of BAT and the largest manufacturer in Canada, recently added a new twist to retail displays by re-packaging its leading du Maurier brand in octagon-shaped packages, with angled edges on the front and back of the package face (see right). Jeff Guiler, vice-president of marketing for Imperial Tobacco Canada, explained that the new shape was a way to attract consumer attention in a market with limited opportunities for advertising and promotion.

Du Maurier (Canada)



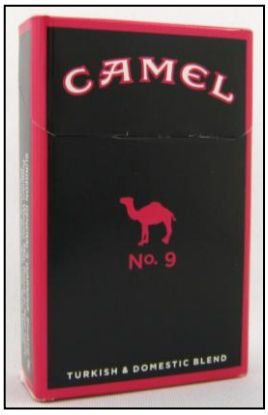
In particular, it was a way to reinforce the ''prestige'' of the du Maurier brand and to distinguish it from the growing number of discount brands in Canada. Guiler explained the implications of the new packages for the point-of-sale environment: ''We decided that in order to leverage the full impact of the Signature Pack and overcome the fact that we are not allowed to do any kind of advertising, we needed to also redesign and refit our in-store displays to mirror the look of the pack.'' [19,20]

Beyond the retail environment, packages also help to increase the reach of "below the line" marketing activities.[21] For example, cigarette packages contain specific references to sponsorship and promotional activities, such as *Formula 1* racing series, concerts, and nightclub promotions. Overall, the cigarette package is the cornerstone of tobacco marketing strategy and poised to become even more important as, the following quote from a Phillip Morris executive indicates: "Our final communication vehicle with our smoker is the pack itself. In the absence of any other marketing messages, our packaging...is the sole communicator of our brand essence. Put another way—when you don't have anything else—our packaging is our marketing."[22]

Cigarette packaging and youth

Research conducted by the tobacco industry consistently demonstrates that the brand imagery portrayed on packages is particularly influential among youth and young adults—the period in which smoking behavior and brand preferences develop.[7,923,24,25] In many cases, initial brand preferences are based less on the sensory properties of product than on perceptions of the package and brand: "One of every two smokers is not able to distinguish in blind (masked) tests between similar cigarettes …for most smokers and the decisive group of new, younger smokers, the consumer's choice is dictated more by psychological, image factors than by relatively minor differences in smoking characteristics."[26] The brand imagery on cigarette packages is effective to the point that large majorities of youth—including non-smoking youth—demonstrate high levels of recall for leading package designs.[27] This is particularly true when packages incorporate brand imagery that has broad appeal to younger audiences, such as the "Old Joe" cartoon image portrayed on *Camel* packages.[28]

Cigarette packaging and young women



Package colours—especially pink and other pastels— are increasingly being used to target young women.[21] Leading brands, such as *Camel*, now offer cigarettes that come in female-oriented pink packages.[29] Other colours commonly used include purples, white, and light yellow.[30] These colours have been shown to suggest positive qualities such as freshness, cleanliness, purity, health, and intelligence.[1] Such colours and the use of other feminine symbols and images are widely acknowledged to portray smoking as feminine and stylish, in an attempt to make cigarettes more appealing to women, as well as to reduce perceived health risks.[33] Brand descriptors such as "*slims*" are used to target young women by exploiting concerns about weight gain and the association between cigarette smoking and thinness.[31,32,33,34] Most recently, Phillip Morris released its newest attempt at targeting young women with "purse packs"—*Virginia Slims "Superslims"* that are contained in slim pink packages that are much narrower in diameter than regular packages, and easier to carry in one's purse.

Packaging and other tobacco control measures

Packaging strategies can also be used to offset the impact of other tobacco control measures, such as increases in price and taxation. For example, internal tobacco industry documents indicate that packaging cigarettes into smaller, more affordable units (such as 10 cigarettes per package rather than 20) are an effective strategy for targeting price-sensitive youth.[23] Although legislation in many countries now prohibits the sale of cigarettes in units less than 20, innovations in the physical shape and construction of packages—such as BAT's "wallet packs" which open like a book and can be separated into two smaller packages—have been criticized as

an attempt to circumvent these prohibitions.[35] BAT's wallet packs were recently banned in Australia after the federal court recently upheld an injunction against their sale. Tobacco companies have also explored packaging strategies to minimize the impact of health warnings, including changes in package design to make warnings less distinctive, as well as the sale of alternate cases and covers that obscure warnings.[36] Further innovation in tobacco packaging is on the horizon[37], as the following quotes indicate:

> *"With the uptake of printed inner frame cards what we will increasingly see is the pack being viewed as a total opportunity for communications – from printed outer film and tear tape through to the inner frame and inner bundle. Each pack component will provide an integrated function as part of a carefully planned brand or information communications campaign."* [38]

> *"Advances in printing technology have enabled printing of on-pack imagery on the inner frame card, outer film and tear tape, and the incorporation of holograms, collectable art, metallic finishes, multi-fold stickers, photographs, and retro images in pack design. In the early 1900s, collectable cigarette cards were a major form of in-pack promotion. A contemporary return to the package as the primary source of advertising is apparent in the following examples."*

In short, the package is a vital marketing channel for the tobacco industry and its value will continue to increase as more traditional forms of marketing are subject to increasing restrictions.

HEALTH WARNING LABELS

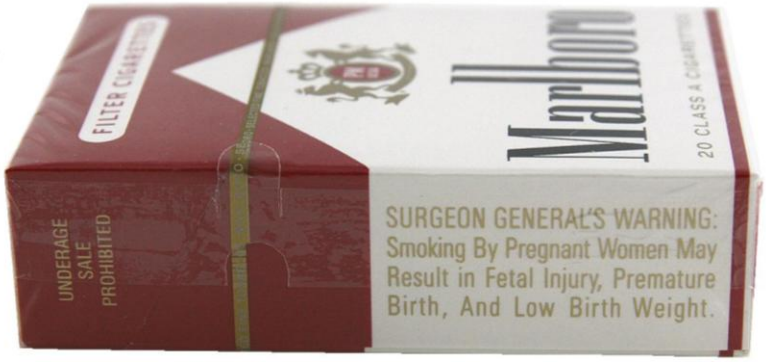
FCTC Article 11

Each Party shall, within a period of three years after entry into force of this Convention for that Party, adopt and implement, in accordance with its national law, effective measures to ensure that:

….Each unit packet and package of tobacco products and any outside packaging and labelling of such products also carry health warnings describing the harmful effects of tobacco use, and may include other appropriate messages. These warnings and messages: (i) shall be approved by the competent national authority; (ii) shall be rotating; (iii) shall be large, clear, visible and legible; (iv) should be 50% or more of the principal display areas but shall be no less than 30% of the principal display area; (v) may be in the form of or include pictures or pictograms.

In addition to serving as a marketing vehicle for the tobacco industry, cigarette packages also provide governments with a direct means of communicating with smokers. Warning labels are primarily intended to communicate the health risks of smoking and to fulfill the government's responsibility as regulators to warn consumers about hazardous products.

At present, cigarette packages in the vast majority of countries carry a health warning.[39] However, the position, size, and general strength of these warnings vary considerably across jurisdictions. In the US, health warnings were first



U.S. Health Warning

included on cigarette packages in 1966, and in advertisements in 1972. Since 1984, US cigarette packages have carried one of four government-mandated text warnings on the side panels of packages. In contrast, more than a dozen countries currently require large pictorial health warnings that cover at least 50% of the package, consistent with the recommendations in FCTC Article 11.

Cigarette packages are an excellent medium for communicating health information given their reach and frequency of exposure. Package health warnings are also unique among tobacco control initiatives in that they are delivered at the time of smoking and at the point of purchase. As a result, the vast majority of smokers report a general awareness of package health warnings and pack-a-day smokers are potentially exposed to the warnings over 7000 times per year. As a result, health warnings on cigarette packages are among the most prominent sources of health information: more smokers report getting information about the risks of smoking from packages than any other source except television.[40] Findings from Canada, Thailand, and elsewhere, indicate that considerable proportions of non-smokers also report awareness and knowledge of package health warnings.[41,42,43] As a result, health warnings are an extremely cost-effective public health intervention and have tremendous reach. However, the extent to which smokers read and think about, and act upon the warnings is highly dependent on their size, position, and design.

> ◎ ***RESOURCE: Health warning pictures online***
>
> An extensive list of picture-based health warnings that have been implemented throughout the world, as well as additional images used in test-marketing, can be reviewed at: www.tobaccolabels.org

Size and Position of Health Warnings

Smokers are more likely to recall larger warnings, and have been found to equate the size of the warning with the magnitude of the risk.[42,44,45,46,47,48,49,50] One Canadian survey found that smokers judged warnings that covered 80% of the package to be most effective. For example, in studies where youth and adults are asked to rate the

effectiveness of different health warnings, the largest warnings are most likely to be rated as effective.[51,52,53] Smokers also report greater recall for warnings that appear on the front, compared to the side of packages.[44,47,49,50,51] For example, several studies indicate that the US text warnings on the side of packages demonstrate low levels of salience among smokers.[54,55,56,57] In a comparative study of students in Canada and the US carried out in 1995, at a time when Canadian packages carried text warnings on the front of packages, 83% of Canadian students mentioned health warnings in a recall test of cigarette packages, compared to only 7% of US students.[58] A Phillip Morris document also highlights the importance of positioning on the front of packages: "Government required warnings placed on the largest packaging panel, often called the front and/or back, are the biggest marketing threat to all of us in Asia..."[22] Features that distinguish the warning messages from the package design have also been found to increase the salience and recall of warnings.[59] Messages with contrasting colours, such as black lettering on a white background are the easiest to read, whereas the legibility of silver or gold text messages is comparatively poor.[47,60]

Literacy

The message content of text-based warnings must target an appropriate literacy level.[61] The current US warnings, for example, require a college reading level and may be inappropriate for youth and Americans with poor reading abilities.[62] This is particularly important considering that, in most countries, smokers report lower levels of education than the general public. Picture-based warnings may be particularly important in communicating health information to populations with lower literacy rates.[63,64] Preliminary evidence suggests that countries with pictorial warnings demonstrate fewer disparities in health knowledge across educational levels.[65]

Impact on Health Knowledge

Cigarette warnings labels have been demonstrated to have a significant impact on smokers' understanding of the risks of tobacco use. Several studies have shown that large text-based warnings are associated with increased perceptions of risk. Cross-sectional surveys conducted in Canada during the 1990's found

Hungary

that the majority of smokers reported that package warning labels are an important source of health information and have increased their awareness of the risks of smoking.[66,42] In Australia, Borland[67] found that, relative to non-smokers, smokers demonstrated an increase in their knowledge of the main constituents of tobacco smoke and identified significantly more disease groups following the introduction of new Australian warning labels in 1995. Several studies have evaluated enhancement of text warnings in European Union (EU) to a minimum of 30% of the principle display area of the package. First, a study of Spanish university students concluded that text warnings based upon the EU directive significantly increased perceptions of risk.[68] These findings were consistent with results from a series of studies conducted with a representative sample of smokers in the UK, France, Scotland, and Ireland on the effects of similar text warnings that were introduced in 2003 in compliance with the EU directive. [69,70] Collectively these studies indicate that smokers' awareness of the warnings increased following the new warnings and considerable proportions of smokers report thinking about health risks and quitting smoking as a result of the large text warnings.

The use of Pictures and Sybmols in Health Communications

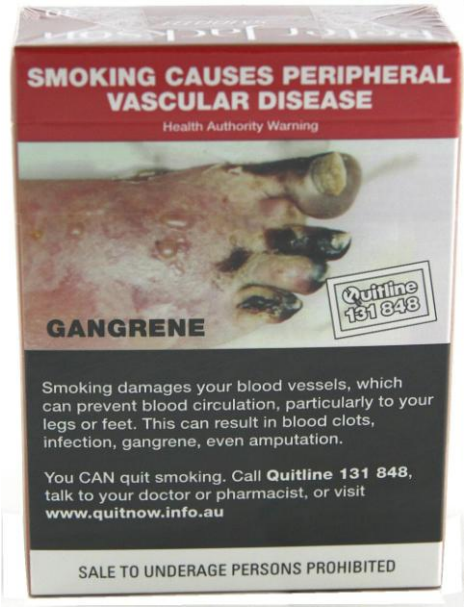
A wide variety of research has clearly demonstrated the effectiveness of using pictures and imagery in health communications.[71,72,73,74,75] This research has demonstrated that warnings with pictures are significantly more likely to draw attention and result in greater information processing, and improve memory for the accompanying text. Picture warnings also encourage individuals to imagine health consequences and are also more likely to be accessed when an individual is making relevant judgments and decisions. As a result, the use of pictorial symbols is a common and effective feature of health warnings for a wide variety of consumer products.[76,77,78,79,80,81,82]

Pictures and Sybmols in Tobacco Warning Labels

Experimental research on cigarette warnings has also found that picture-based warnings are more likely to be rated as effective versus text-only warnings both as a

deterrent for new smokers and a means to increase cessation among current smokers.[83,84,103]

Extensive focus group testing and market-research commissioned by government health agencies also underscores the importance of using pictures in package health warnings. This research consistently demonstrates that health warnings with pictures are rated by smokers and non-smokers as more effective and associated with greater impact and memory for health risks than text-only warnings. The following includes summary statements from several prominent sources.



Summary of Health Canada Research Conducted Prior to 2000

Participants felt that the new larger health warning messages, featuring colour photographs, were a definite improvement over the current warning messages. Teenagers were particularly impressed with the use of pictures and the larger size of the messages that allow for the dissemination of more information.

Overall Responses to New Warning Messages, p.5[85]

Summary of Research Commissioned by Health Canada Since 2000

"It also appears that messages have to be credible and supported by facts and visual depictions wherever possible."

"Other graphic approaches showing dramatic negative health effects, although not necessarily liked, were effective in garnering notice among a number of participants."

Executive Summary, p.3[86]

"The picture was generally the first thing people looked at and related to. It determined the strength of the warning's emotional impact and noticeability. For

many participants, the picture played the key role in understanding the message, and tended to override the meaning conveyed by the words in the headline. Therefore, those warnings with a clear, simple and effective headline to support or complement the emotionally strong visual were the ones that consistently generated positive and almost enthusiastic feedback from participants."

Executive Summary, p.4[87]

Summary of Research Commissioned by the Australian Department of Health

"The graphic packs were more informative about health effects and more effective in general in conveying health information regarding the contents of cigarettes and cigarette smoke than were the "text only" alternatives. They were also more likely to elicit an emotional response from smokers. They will generate controversy and discussion about smoking and its health and social effects. The graphic packs are more likely to: create impact; attract attention; be confronting and difficult to ignore; make it more difficult for smokers to deflect the health message. Overall, the "text only" packs were not considered as impactful or as effective in conveying the potential negative health consequences of smoking as the graphic pack alternatives."

Executive Summary, p.5[88]

Summary of Research Commissioned by the New Zealand Ministry of Health

"All experience and evidence suggests that a combination of visual and text provides the best possible communication; the visual element to attract attention and telegraph a strong message, the text to expand and provide information."

Summary, p.14[89]

"Respondents consistently mentioned visuals as being the crucial element-i.e. clear pictorial evidence of the consequences of smoking or the potential gains of quitting."

Summary, p.6[90]

"By way of a high-level summary of findings, the following key consideration emerged from the research:

-Pictorial messages are likely to have significantly more impact than text-only message.

-The larger the pictorial message, the greater its impact."

Summary p.6[91]

Since 2000, when the first pictorial warnings were introduced in Canada, a series of population-based surveys have compared the effectiveness between text and pictorial warnings. These findings are consistent with both the experimental and government commissioned research: graphic warnings are more likely to be noticed and read by

smokers, are associated with stronger beliefs about the health risks of smoking as well as increased motivation to quit smoking.[69,84,86,87,90,91,92,93,94,95,96,97,98,99,100,101.102]

Picture warnings appear to be especially effective among youth: more than 90% of Canadian youth agree that picture warnings on Canadian packages have provided them with important information about the health effects of smoking cigarettes, are accurate, and make smoking seem less attractive.[42] Other national surveys of Canadian youth suggest similar levels of support and self-reported impact.[41] A recent longitudinal evaluation of pictorial warnings among Australian school children found that students were more likely to read, attend to, think about, and talk about health warnings after the pictorial warnings were implemented in 2006.[101] In addition, experimental and established smokers were more likely to think about quitting and forge cigarettes, while intention to smoke was lower among those students who had talked about the warning labels and had forgone cigarettes. Recent experimental research conducted among youth in Greece is consistent with these findings.[103] In recognition of this evidence, the Elaborated Guidelines of FCTC Article 11 state that:

FCTC Article 11 Elaborated Guidelines

"Evidence shows that health warnings and messages that contain both pictures and text are far more effective than those that are text-only. They also have the added benefit of potentially reaching people with low levels of literacy and those who cannot read the language(s) in which the text of the health warning or message is written. Parties should mandate culturally appropriate pictures or pictograms, in full colour, in their packaging and labelling requirements."[104]

"Graphic' picture and the use of fear arousing information

Pictorial warnings that contain graphic images of health effects have been criticized on the grounds that threatening information may cause defensive reactions among smokers that lessen the likelihood of quitting.[105] Graphic warning labels showing "shocking" pictures of health effects do indeed cause strong emotional reactions among a considerable proportion of smokers and non-smokers.[98,106] However, strong emotional reactions are associated with increases in the effectiveness of warnings.[98] Indeed, there is no evidence that graphic warnings labels decrease the effectiveness of the warnings in terms of intentions to quit, thinking about health risks, or engaging in cessation behaviour. For example, a recent experimental study compared picture warnings that showed graphic depictions of disease (or "loss-framed" message) versus pictorial warnings that emphasized the positive aspects of abstaining from smoking (or "gain-framed" messages). The results indicated that adolescents had more favorable attitudes toward the loss-framed warnings and perceived them as more effective than the gain-framed warnings. Further, smokers exposed to the loss-framed version featuring decaying teeth had significantly lower intentions to smoke in the future.[107]

Canada

It has also been suggested that smokers will simply avoid warnings that are too strong and will "tune out" the health messages. Although several studies indicate that a considerable portion of smokers make some attempt to avoid graphic pictorial health warnings by covering or hiding the warnings and using another case, these examples of fear control behaviour do not necessarily reflect an adverse outcome or inherent weakness of package warnings. Research has demonstrated that avoidant behaviours and attempts at thought suppression often have the opposite effect of increasing the presence of the unwanted thoughts.[108] One study found that smokers who attempted to

Singapore

avoid the warning were nevertheless no less likely to see the warnings, think about them, or engage in cessation behaviour at 3-month follow-up.[98] Preliminary findings from a longitudinal study of the pictorial warnings in Australia also demonstrate a positive association between "avoidant behaviour" and self-reported measures of effectiveness, such as foregoing a cigarette and increases in motivation to quit smoking as a result of the warnings.[109] In the context of the warning labels, avoidant behaviour might be more reasonably interpreted as a measure of effectiveness. Indeed, if the warnings were ineffective in communicating the threatening consequences of smoking there would be no reason to avoid them.

In fact, research in the field of health communication indicates that messages with emotionally arousing content are more likely to be noticed and processed by smokers.[110] The most consistent finding from this literature is that fear appeals are effective when paired with strong efficacy messages for a specific outcome (i.e. quitting smoking). A recent meta-analysis of the literature on public health communications concluded that 'strong fear appeals and high-efficacy messages produce the greatest behavior change', and found no evidence of any adverse or 'boomerang' effects for strong fear appeals.[110] Graphic warnings in Canada, Australia, Singapore, Brazil, and other countries are entirely consistent with this literature: in addition to information on health risks, they include messages designed to increase self-efficacy for quitting. These messages include both general messages of support, as well as concrete information on ways to quit smoking and specific sources of help, including website addresses and toll-free "quitline" numbers.

Australia

Belgium

The effectiveness of graphic fear-inducing images is supported by surveys and focus groups with smokers. For example, an extensive public consultation was conducted by the UK Department of Health that received more than 20,000 responses. The highest rated warnings were generally those that included the "hardest hitting" messages and images, including graphic pictures of the health effects of smoking (see right).[111] Research conducted on behalf of the Australian, New Zealand, and Canadian governments yielded similar results:

United Kingdom

> *"Participants in all groups consistently expected or wanted to be shocked by HWMs, or emotionally affected in some way. Even if the feelings generated were unpleasant ones to tolerate, such as disgust, fear, sadness or worry, the emotional impact of a warning appeared to predict its ability to inform and/or motivate thoughts of quitting. HWMs which worked on emotions rather than on knowledge or beliefs were often acknowledged as effective and noticeable, and actually motivated thinking. When a strong emotion generated by a HWM was supported by factual information, that was the best combination possible."*
>
> Overview of Findings, p.3[87]

> *"Most participants were moved by the dramatic and scary pictures and messages, such as the woman smoking through a hole in her throat, the sick baby, the cemetery with grieving loved ones, and warnings that depicted the physical and health consequences of smoking, such as the diseased mouth."*
>
> Overall Responses to New Warning Messages, p.5[85]

Health warnings and cessation behaviour

The extent to which health warnings lead to changes in smoking behaviour is difficult to ascertain within the context of population-based data. However, significant proportions of adult and youth smokers report that large comprehensive warnings have reduced their consumption levels, increased their likelihood of quitting, increased their motivation to quit, and increased the likelihood of remaining abstinent following a quit attempt.[42,96,97,98, 112,113,114,115,116,117,118,119,120] In at least three studies, longitudinal studies have demonstrated an association between reading and thinking about health warnings and subsequent cessation behaviour.[97,101,102] Increases in the use of cessation services have also been associated with health warnings. Research conducted in the UK, the Netherlands, Australia, New Zealand, and Brazil has examined changes in the usage of national telephone "helplines" after the contact information was included in package health warnings. Each of these studies reported significant increases in call volumes. [118,121,122,123,124] For example, calls to the tollfree smoking cessation helpline in the Netherlands increased more than 3.5 times after the number was printed on the back of one of 14 package warnings.[122] Therefore, while it is not possible to precisely quantify the impact of health warnings on smoking prevalence or behaviour, all of the evidence conducted to date suggests that health warnings can promote cessation behaviour and that larger pictorial warnings are most effective in doing so.

Brand Appeal

Prominent health warnings that cover a significant proportion of the package also have the potential to undermine a brand's appeal and the impact of package displays at retail outlets.[116,125,126,127,128] One recent study found that including graphic pictures compared to text-only warnings lowered the appeal of non-combustible products, nicotine lozenges, and cigarettes with modified designs.[129] A Quebec Superior Court judge remarked upon this phenomenon in a ruling regarding the industry's challenge to pictorial warnings in Canada: "Warnings are effective and undermine tobacco companies' efforts to use cigarette packages as badges associated with a lifestyle."[130]

Chile

Credibility & Public Support

Research indicates that smokers report graphic warnings to be a credible source of information, particularly when attributed to a well respected Department of Health or a well respected non-governmental authority, such as a cancer society.[90,150,131] The levels of credibility do not appear to be associated with the type or design of warning labels: like text-based warnings, smokers report high levels of believability for graphic picture-based warnings.

Brazil

Uruguay

Several studies also report high levels of public support for graphic pictorial warnings.[98,132,133] For example, in Canada more than 90% of youth agreed that picture warnings on Canadian packages have provided them with important information about the health effects of smoking cigarettes, are accurate, and make smoking seem less attractive.[42] In Brazil, a national survey indicated that 76% of those interviewed approved of the measure, including 73% of smokers.[118] Two years after the introduction of large pictorial warnings in Uruguay, only 8% of adult smokers reported they would prefer less health information to appear on packages, whereas 62% reported they would like more health information on packages.[134] Similar levels of popular support have been observed following the introduction of pictorial warnings in Canada and Thailand.[97,135] Although tobacco companies have suggested that pictorial warnings "harass" smokers, research suggests that, overall, smokers welcome more health information on their packages, including information that presents the health consequences of smoking in a vivid, arousing manner.

"Wear-out" and impact over time

It is widely accepted that the salience of advertising and health communications is typically greatest upon initial exposure.[136,137] For example, a recent study found that new text-based warnings introduced in the United Kingdom in 2003 were considerably more likely to be noticed than Australian text-based warnings which were only slightly smaller, but had been in place for more than eight years at the time of the survey.[96] The frequency with which smokers read and attend to warnings has been shown to lessen over time as smokers become desensitized to the warnings.[138,139,140] As a result, health warnings must be regularly updated to maintain their maximum impact over time.

Government Regulation & Industry opposition

Thailand

The tobacco industry has vigorously opposed comprehensive tobacco labelling policies, especially in the case of pictorial labels.[141] For example, as Alechnowicz and Chapman[142] have noted, in 1995, package warnings were identified by British American Tobacco as one of the key issues facing the company. Protecting the pack design and "neutralizing" the controversy over pack warning labels were among the priorities listed in the document.[143] The same document goes on to state that, "pictorial warnings, and those occupying a major pack face or faces (front and back) or a disproportionately large area of advertising space, should be restricted, as should moves to plain or generic packs. Every effort should be made to protect the integrity of the company's packs and trade marks".[143]

In public, tobacco manufacturers have argued that large comprehensive warnings are not only unnecessary, but are less effective than more obscure text messages.[141] For example, Martin Broughton, the former Chairman of BAT recently stated that: "The growing use of graphic image health warnings …can offend and harass consumers- yet

in fact give them no more information than print warnings."[144] Tobacco manufacturers have also argued that comprehensive warnings constituent an unreasonable and illegal expropriation of cigarette packaging.[7]

To date, courts of law have disagreed. For example, in response to a legal challenge of the Canadian Tobacco Act, the court found that the tobacco companies' right to advertise their products could not be given the same legitimacy as the federal government's duty to protect public health. In short, the courts have ruled that even graphic warnings are warranted considering the societal costs of smoking.

Alternative tobacco products

Labelling requirements for manufactured cigarettes are more advanced than for other tobacco products. In many jurisdictions, tobacco products such as cigars and smokeless products are subject to different regulations and often carry a different set of health warnings or no warning at all. There is a need for research to examine issues such as alternative packaging sizes, as well as the extent to which alternative tobacco products require unique message content to reflect differences in health effects and patterns of use.[145] In addition, in many jurisdictions tobacco products are sold without any manufactured packaging. This practice will inevitably reduce the impact of comprehensive labelling policies. For some products sold without packaging, such as manufactured cigarettes that are sold individually, it may be possible to print health warnings directly on the cigarette itself. For other products sold without packaging, such as "loose" or "fine cut" tobacco, this may be impossible given the nature of the product. Given the lack of information in this area, research on health warnings for "alternative" tobacco products should be regarded as a priority.

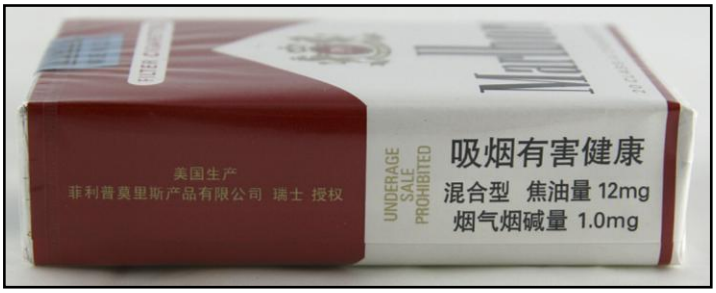
CONSTITUENTS AND EMISSION LABELLING

FCTC Article 11:
Each unit packet and package of tobacco products and any outside packaging and labelling of such products shall, in addition to the warnings specified in paragraph 1(b) of this Article, contain information on relevant constituents and emissions of tobacco products as defined by national authorities.

Disclosure of constituents and emissions has presented a unique challenge to regulators. Cigarette smoke contains approximately 4,000 chemicals, including over 60 carcinogens and toxins such as polonium 210, benzene, and arsenic.[146] Although there is general agreement that cigarette packages should include some information on these chemicals, regulators continue to struggle with how best to communicate this information in a feasible and meaningful way to consumers.

Indeed, the primary rationale given for the disclosure of emissions and constituents is to inform consumers about the contents of tobacco products; however, the benefits of communicating this information to consumers are by no means certain.

At present, national authorities have taken much different approaches to labelling constituents and emissions. The traditional regulatory practice in many jurisdictions has been to require manufacturers to print levels for three emissions in the mainstream smoke: tar, nicotine, and carbon monoxide (CO). These numbers are typically printed on the side of packages. In fact, communicating emissions numbers to consumers was originally an industry practice. Tobacco manufacturers have communicated tar and

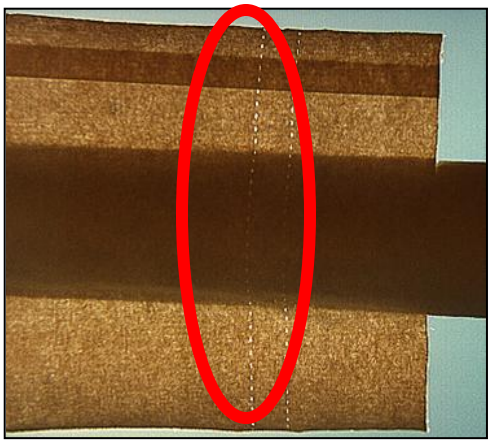


China

nicotine numbers directly to smokers ever since the health risks of smoking became publicly known.[147] These early forms of "product disclosure" were motivated less by consumer protection than by a marketing strategy intended to capitalize upon widespread misperceptions of "lower tar" products. Despite early objections by regulatory authorities such as the U.S. Federal Trade Commission, this industry practice was adopted by regulatory communities throughout the world.[148]

Cigarette emissions

Tar, nicotine, and carbon monoxide emission numbers are misleading. They represent neither the amount of chemicals present in the cigarette (i.e. tobacco "constituents"), nor the amounts actually ingested by human smokers. This is because the emission numbers are determined by a machine that "smokes" cigarettes according to a fixed puffing regime. This machine method does not predict the amount of smoke inhaled by individual consumers or account for design elements such as "filter ventilation"—tiny holes poked in the filter that yield low emission levels under machine smoking, but much higher levels under human smoking.[149] As a result, there is no association between the machine-generated numbers printed on packages and the health risk of different brands. In short, the underlying premise for communicating tar and nicotine numbers directly to consumers—that "low tar" cigarettes are less harmful—has since been rejected.



Filter ventilation

European Union

Although the scientific consensus on tar and nicotine emissions has evolved, the practice of communicating these numbers to consumers remains widespread: not only have manufacturers continued to communicate tar and nicotine levels directly to consumers via advertising, but many regulators continue to do so

through packaging and labelling regulations. Research has repeatedly shown that although many smokers are not able to recall the specific tar level of their brand, a substantial proportion nevertheless equate lower numbers with a reduction in exposure and risk, and many use these numbers to guide their choice of brands.[150,151,152, 153,154,155] Recent findings suggest that smokers even in the most affluent and educated countries continue to hold false beliefs about emission numbers:

- 75% of smokers from Australia, Canada, the U.S., and the UK recently reported that the tar numbers on packs are related to exposure.[156]
- Among smokers in the same study who believe that some brands are less harmful than others, 81% believe that the tar and nicotine levels indicate the brands that are less harmful.[156]
- When shown emission labels on two cigarette brands from the European Union, 92% of smokers recently reported that the 4mg product would deliver less tar than the 10mg product, and 90% reported that they would buy the 4mg product if they were trying to reduce the risks to their health.[100]
- These findings are consistent with the ways in which smokers have been shown to perceive emission numbers when conveyed through advertising.[147]

Overall, printing emission numbers on packages reinforces the tobacco industry's deceptive marketing campaign and the false belief that low tar cigarettes are less hazardous.

In many cases, manufacturers voluntary print emission levels on packages even in the absence of regulation. For example, in the United States there are no requirements to print emission levels on packages. However, a number of manufacturers do so voluntarily, albeit in a highly selective fashion. In 2004 and 2005, tar levels were printed on more than 90% of U.S. brands with less than 3mg of tar, compared to fewer than 2% of brands with 8-11mg of tar.[157] Similar practices have occurred in other jurisdictions, such as Brazil, where regulators have removed the requirement to print numbers, but have not prohibited manufactures from doing so.

In light of these findings, some jurisdictions have supplemented the emission numbers with additional emission information. In 2000, Canada increased the list of emissions that must be reported and added a second set of emission numbers generated under the "Health Canada" method, a more intensive machine smoking method (see right). This emission testing method is no better at predicting exposure or risk than the lower set of numbers.[158]

Canada

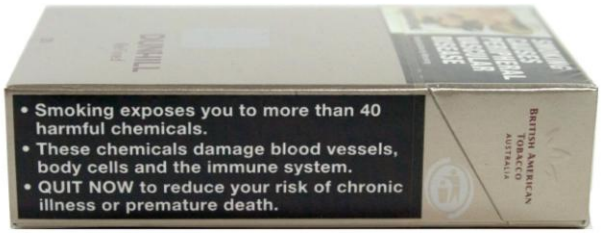
Subsequent research conducted on behalf of Health Canada found that 4 out of 5 smokers did not understand the emission information; nevertheless, more than half reported that they would use these numbers "to find a less harmful brand".[150] More recent research found that Canadian smokers and non-smokers rated the emission information on Canadian packs as significantly more "informative" and "useful" than the emission information on EU and Australian packs; however, the Canadian emission information was also rated as the "most difficult to understand," and the vast majority of smokers reported that the numbers could be used to identify less harmful brands.[100]

Overall, consumer misperceptions are not simply due to flaws in a particular testing method and the actual value of the numbers, but the practice of assigning different brands different numbers. Changing the metric of cigarette emissions by using more intensive testing methods provides little insurance against the likelihood that consumers will interpret brands with lower numbers as lower risk. If the scientific consensus is that there are no measurable differences in risk between conventional cigarette brands, regulators should not communicate numerical toxicant levels that suggest otherwise. Indeed, the "Elaborated Guidelines" for FCTC Article 11 state: "Parties should prohibit the display of figures for emission yields, such as tar, nicotine and carbon monoxide, on packaging and labelling, including when used as part of a brand name or trademark."[104]

Non-numerical emission labelling

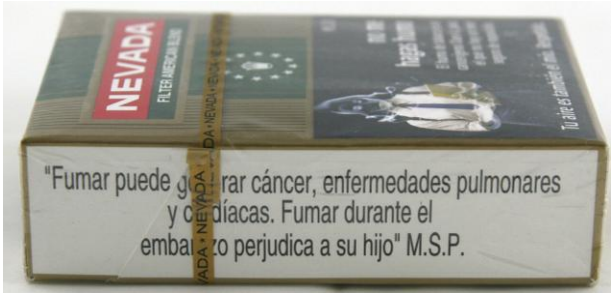
Overall, there is no evidence that quantitative emissions constitute effective consumer information and leading scientific bodies have called for the removal of emission numbers from packages.[159] To date, at least five countries have removed emission information from packages and replaced it with descriptive information about toxic constituents and their effects on health. Preliminary research suggests that this information is more meaningful to consumers and less likely to result in misperceptions about the relative risk of different cigarette brands.[100,160] Further work is required to examine what types of descriptive product information are most useful to consumers. For example, it remains unclear whether consumers would be best served by a long list of toxic chemicals, a subset of the most hazardous chemicals, or perhaps the most recognisable toxicants, such as arsenic and benzene. The extent to which additives or design features (such as filter ventilation) might serve as effective consumer messaging is also unclear. See Chapter 3 of this Toolkit for recommendations on designing toxic emission messages, including examples.

Brazil



Australia

Thailand



Uruguay

PLAIN PACKAGING AND PROHIBITIONS ON MISLEADING INFORMATION

FCTC Article 11:

Each Party shall, within a period of three years after entry into force of this Convention for that Party, adopt and implement, in accordance with its national law, effective measures to ensure that:

….tobacco product packaging and labelling do not promote a tobacco product by any means that are false, misleading, deceptive or likely to create an erroneous impression about its characteristics, health effects, hazards or emissions, including any term, descriptor, trademark, figurative or any other sign that directly or indirectly creates the false impression that a particular tobacco product is less harmful than other tobacco products. These may include terms such as "low tar", "light", "ultra-light", or "mild."

Tobacco companies have made extensive use of cigarette packages to convey information regarding the risks of cigarettes.* Prior to the 1950's, tobacco packages rarely included information about tar levels or other information that might cause smokers to reflect upon health risks. However, following the publication of the first Surgeon General's report on the health risks of smoking in 1964, tobacco companies have sought to actively reassure consumers about the potential risks of their products. A central feature of this marketing strategy has been to promote differences in the relative risk of brands and to integrate this marketing strategy into the design of products themselves, largely through the promise of improved filtration and lower emissions. Nicotine-addicted consumers embraced these brands as a welcome alternative to quitting, as well as a means of easing the guilt and cognitive dissonance from smoking.[147]

* Note that several quotes and sources in this section are drawn from a recent review prepare by Freeman, Chapman, & Rimmer[24]

The package has served as an essential medium for executing this marketing campaign. In general, tobacco companies have relied upon implicit means to promote differences in risk, rather than overt health claims on the package.[147] This has been accomplished using a number of packaging elements, including references to product design, the use of misleading descriptors, as well as the use of colours and symbols.

References to product design

Products that are positioned as "low yield" brands often carry images or references to product design on the package.[161] References to filtration are among the oldest and most common examples of this strategy. For more than 50 years, tobacco companies have communicated filter properties to consumers as tangible evidence of emissions reduction and lower risks. Indeed, the rise of filtered cigarettes in the U.S. paralleled the rise in health concerns among consumers.[146] From Kent's *Micronite* filter, to Barclay's *ACTRON* filter, to the charcoal filters currently being test marketed in Marlboro Ultra Smooth—whatever the filtration properties of these designs may be, they reassure smokers when displayed on the package.[162] As Myron Johnston and W.L. Dunn of Philip Morris stated in 1966, "the illusion of filtration is as important as the fact of filtration."[163]

The images on the right provide a contemporary example of this packaging strategy from China, where two leading brands feature images of high-tech filters and references to "laser holes," "active carbon particles," and "colour cellulose particles." Packages with pictures and references to special cigarette filters such as these are rated by a majority of smokers as having less tar and lower health risk.[100] These references to product design and chemical profile on the package are

China

meaningless in terms of actual risk; however, as internal tobacco industry documents indicate, the illusion of improved filtration and technology falsely reassures consumers.[164]

Brand descriptors

Tobacco manufacturers incorporate a variety of common terms into the names of their cigarette brands. Words such as *light* and *mild* are ostensibly used to denote flavour and taste; however, *light* and *mild* brands are often promoted as "healthier" products and have been closely integrated with product design in order to maximize their impact.[9,147,149,161] Brands with descriptors such as *light* and *mild* are typically applied to brands with higher levels of filter ventilation that generate lower machine levels of tar. Not only does filter ventilation dilute cigarette smoke to produce deceptively low emission numbers under machine testing, but it also produces "lighter" tasting smoke and other sensory properties that reinforce the misleading descriptors and images on packages. Indeed, smokers associate the "flavour" and harshness of the smoke with the level of risk.[165] The synergistic but subtle effect of brand descriptors, low emission numbers, and the "lighter" tasting smoke has proven extremely effective in promoting misleading perceptions off risk to smokers.[149,166,167,168,169,170,171] For example these deadly misperceptions have the potential to forestall quitting among many "health concerned" smokers and persist to this day among a considerable proportion of smokers.[149,172] For example, more than 50% of Chinese smokers believe that brands labelled as *light* are less harmful than regular cigarettes.[173]

Words in the name of the brand are persuasive to the point that they can influence sensory properties of smoking a cigarette. One study found that even the name of a cigarette brand is enough to alter people's beliefs about the quality and attractiveness of cigarettes. When Friedman and Dipple had 200 men and women smoke identical cigarettes but told them the brand was called either "April" (a feminine name) or "Frontiersman" (a masculine name), women rated the cigarettes named "April" more favourably, whereas the men rated the cigarettes they believed were named "Frontiersman" more favourably.[174]

Numbers are also used in the name of cigarette brands to distinguish between different varieties. These numbers often correspond to the machine levels of tar emissions.[147] As explained in the previous section, there is extensive research showing that consumers perceive lower tar products as "healthier" than regular or higher tar products. When shown packages with different numbers in the brand name, as many as 80% of smokers report that the brand with the lower number would deliver less tar and may lower risk.[100] The Elaborated Guidelines under Article 11, clearly state that these numbers should be prohibited from packages.[104]

Japan

Canada

Prohibitions on misleading brand descriptors

To date, at least 44 countries have prohibited the use of the words *light*, *mild*, and *low tar* on packaging, including 27 countries from the European Union.[175] Although *light*, *mild,* and *low tar* are the most notable examples of misleading brand descriptors, they are by no means the only ones. Indeed, a wide variety of other descriptors have been designed to reinforce the same false beliefs and perceptions. For example, the term *smooth* has been used as a replacement for *light* and *mild* in a number of jurisdictions with prohibitions.[176] Other common substitutes for *light* and *mild* include the names of colours, such as *silver* and *blue*, which capitalize on the perceptions of these colours as being "lighter". These replacement words have the same misleading effect as *light* and *mild*: a recent study found that more than 70% of smokers reported that packages with words such as *smooth* and *silver* would have lower health risks than *regular* and *full flavour* brands.[100] In addition, recent research conducted in the UK found that 54% of children surveyed identified *Mayfair Smooth* as less harmful than *Mayfair King Size*, similar to the proportion

Canada

that believed that brands described as "light" brand was less harmful (59%).[171]

Therefore, although the removal of *light*, *mild,* and *low tar* terms represent an important first step in removing misleading product information from packages, recent research in Australia and the UK, where these terms have been prohibited, suggests only modest benefits, in terms of reducing false beliefs about the risks of different cigarette brands.[177] The marginal impact of removing the words *light*, *mild,* and *low tar* is likely due to greater colour segmentation, the substitution of other misleading terms such as *smooth,* and the tar and nicotine numbers on UK packages.

"Plain" packaging and the impact of colour and brand imagery

Colour, symbols, and imagery

Colour is routinely used in package design to shape consumer perceptions of risk.[7,9] Research has shown that consumers associate the "lightness" and "strength" of a brand with different colours. For example, blue tones are perceived as "lighter" than red, while products in grey and white packages are perceived to be the "lightest." Recent research in the UK found that cigarettes in a light grey package were rated by four out of ten smokers as less harmful than cigarettes in an otherwise identical red pack. Similar levels of false beliefs were observed among children in the same study. In the same study, different shades of the same colour, as well as the proportion of white space on the package, can also be used to manipulate perceptions of the strength and acceptability of the product itself. The following quote from a Philip Morris researcher describes this phenomenon:[9]

> *"Lower delivery products tend to be featured in blue packs. Indeed, as one moves down the delivery sector, then the closer to white a pack tends to become. This is because white is generally held to convey a clean healthy association."*[178]

Example of colour segmentation with brand varieties (Gauloise—France)

Colour can be used to convey other properties of cigarettes. For example, silver and gold are used to convey status and prestige, particularly for "premium" brands.[7] Red packages and logos convey excitement, strength, wealth, and power.[179,180]

In addition to the use of colour, packaging often includes imagery and symbols with strong associations with health, including images of nature scenes, physical activity, and sport.[7,147]

China

As one indication of the power of colour and imagery, the Canadian subsidiary of Philip Morris recently introduced the U.S. Marlboro cigarette in the Canadian market without the Marlboro name because the trademark is owned by a competitor. This product carries no identifiable name on the package (see below). This speaks not only to the familiarity of the Marlboro chevron logo, but also to how colour alone can be used to distinguish between brand varieties and emission levels.

"Rooftop" Brand Without Identifiable Name on Package (Canada)

Research conducted with adult smokers in the UK, where packs carry the name Marlboro, but use only colour to distinguish between different varieties, found significant levels of false beliefs associated with these brands. Compared to Marlboro packs with a red logo, Marlboro packs with a gold logo were rated as lower health risk by 53% and easier to quit by 31% of adult smokers.[171]

A number of studies have shown that the colour and design of the package are effective to the point where they can affect sensory perceptions of a cigarette, a process known as "sensory transfer." Imperial Tobacco Canada Ltd, a subsidiary of British American Tobacco, summarized extensive research on "brand imagery" that demonstrates how the design of the package alone can affect sensory perceptions of the product.[181] The following provides a description of similar research conducted by Philip Morris:

> *Philip Morris marketing research department compared smokers' responses to cigarette packages in a blue and red pack. Despite the cigarettes being identical in composition, smokers appraised the cigarettes in the blue pack as "too mild" and "not easy drawing". Others felt that the cigarettes in the red pack were "too strong" and "harsher".*[9]

Overall, the colour and brand imagery of a brand has a significant impact upon product perceptions. As Imperial Tobacco Ltd's Vice President of marketing noted: "it's very difficult for people to discriminate blind-tested. Put it in a package and put a name on it, then it has a lot of product characteristics."[182]

Plain packaging

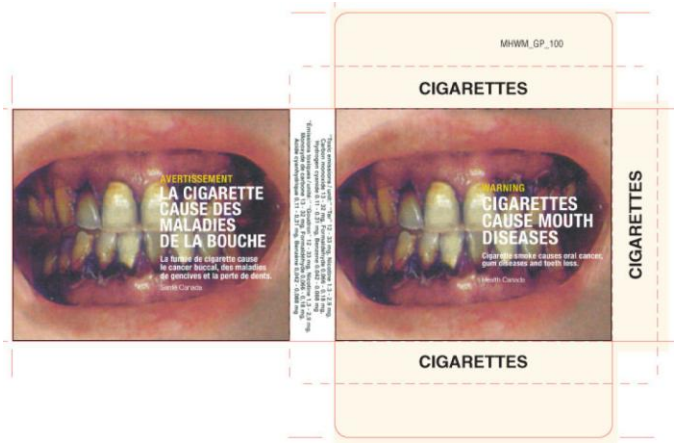
Plain packaging has been proposed as a way to address the impact of colour and other elements of brand imagery on packages. Plain packaging would standardize the appearance of cigarette packages by requiring the removal of all brand imagery, including corporate logos and trademarks. [183] Packages would display a standard background colour and manufacturers would be permitted only to print the brand

name in a mandated size, font, and position. Other mandated information, such as health warnings, would remain, as illustrated below.*

"Regular" Packaging

"Plain" Packaging

One alternative to the example above would be to minimize the proportion of "plain" or "generic" background by enhancing the size of health warnings—see example at right.[52] For example, research conducted in Canada indicates that pictorial health warnings that cover 90 to 100% of the principal display areas may have similar effects to "plain" packaging.[52,53]



Plain packaging and brand appeal

Plain packaging has three potential effects. First, removing the colours and brand imagery from packages has the potential to reduce brand appeal. Research to date suggests that plain packages are less attractive and engaging, particularly to young people.[37] For example, a survey of Canadian youth found that strong majorities "liked" regular packages better than plain packages, and indicated that plain packages are more "boring" and "uglier" than regular packages.[184] Approximately one third of respondents also reported that young

* Note that plain packaging would not address misleading brand descriptors—the term is typically used to refer strictly to the removal of colour and brand imagery. Therefore, prohibitions on misleading words and numbers on packages likely requires a separate regulatory measure.

people their age would be less likely to start smoking if all cigarettes were sold in plain packages. A similar study of Canadian and U.S. youth found that plain packages reduced the positive imagery associated with packages and were associated with greater negative imagery.[185] Recent research conducted with adult smokers in Australia also found that, "cardboard brown packs with the number of enclosed cigarettes displayed on the front of the pack and featuring only the brand name in small standard font at the bottom of the pack face were rated as significantly less attractive and popular than original branded packs. Smokers of these plain packs were rated as significantly less trendy/stylish, less sociable/outgoing and less mature than smokers of the original pack."[186] Similar results have emerged from a recent study conducted in the UK: adult smokers and children rated generic versions of packages as significantly less attractive and youth were less likely to select a general brand if they were to try smoking. [171] Marketing research conducted with adults also suggests that plain packaging reduces some of the appeal of smoking, as the follow quote indicates:

Trachtenberg (Forbes Magazine, 1987)

"…when we offered them Marlboros at half price--in generic brown boxes --only 21% were interested, even though we assured them that each package was fresh, had been sealed at the factory and was identical (except for the different packaging) to what they normally bought at their local, tobacconist or cigarette machine.' How to account for the difference? Simple. Smokers put their cigarettes in and out of their pockets 20 to 25 times a day. The package makes a statement. The consumer is expressing how he wants to be seen by others."[187]

Plain packaging and perceptions of risk

Plain packaging also has the potential to reduce false beliefs about the harmfulness of different cigarette brands. Considerable proportions of smokers in countries such as Canada, Australia, the US, and the UK continue to believe that some types of conventional cigarette brands are less harmful than others.[156] A recent study conducted with adult smokers and youth in the United Kingdom found that, when asked to compare varieties from 8 different cigarette brands, approximately 75% of

adult smokers and children falsely reported that there were differences in risk between at least one of the varieties.[171]

Plain packaging and the salience of health warnings

Plain packaging can also increase the effectiveness of health warnings.[188] In one study, New Zealand youth were significantly more likely to recall health warnings when they were presented on plain packs compared to health warnings presented on "normal" branded packages.[189] A series of surveys and experiments conducted in Canada also demonstrate that health warnings on plain packages are more noticeable, easier to recall, and more believable.[185,27] In 1995, an expert panel from Canada summarized their conclusion on plain packaging based on a comprehensive review:

Expert Panel Report on Plain and Generic Packaging (Canada, 1995)

"Plain and generic packaging of tobacco products (all other things being equal), through its impact on image formation and retention, recall and recognition, knowledge, and consumer attitudes and perceived utilities, would likely depress the incidence of smoking uptake by non-smoking teens, and increase the incidence of smoking cessation by teens and adult smokers."[27]

To date, plain packaging regulations have been considered in several jurisdictions, but have yet to be adopted.[183,190] Industry opposition to plain packaging measures can be expected to be robust. A "plain packs group" was created in 1993 with representative from leading tobacco companies.[191] Documents from this group clearly state that the group did not "want to see plain packaging introduced anywhere regardless of the size and importance of the market."[192]

In recognition of the evidence on "plain packaging" the Elaborated Guidelines of FCTC Article 11 state that:

FCTC Article 11 Elaborated Guidelines

"Parties should consider adopting measures to restrict or prohibit the use of logos, colours, brandimages or promotional information on packaging other than brand names and product names displayed in a standard colour and font style (plain packaging). This may increase the noticeability and effectiveness of health warnings and messages, prevent the package from detracting attention from these and address industry package design techniques that may suggest that some products are less harmful than others..."[104]

Evaluating the removal of information on packages

Unlike other tobacco labelling policies, restrictions on misleading information result in the removal, rather than the provision of information. This presents a challenge when evaluating the impact of these policies, particularly when the information being removed is used as a brand descriptor. In the case of *light* and *mild* bans, the terminology that was previously used to identify a class of products no longer exists. Smokers may retain the same misleading perceptions of these products after the terms have been prohibited, but research measures can no longer refer to "light" or "mild" cigarettes in the same way as in the past. Therefore, survey measures must be designed so that the wording and meaning of questions remains constant before and after the removal of these terms. This creative challenge is only now being confronted by researchers with the recent advent of *light* and *mild* prohibitions.

Another implication of the "removal" of brand information is that the beliefs associated with *light* and *mild* cigarettes are likely to persist for some time after the descriptors disappear from packages. This situation is similar to advertising, promotion, and sponsorship bans: one should not expect beliefs to change immediately upon the implementation of the policy, but more gradually over time. Indeed, anecdotal evidence suggests that many retailers and consumers continue to use the terms *light* and *mild* well after their removal from packages. This issue is distinct from, but complicated by the effect of new descriptors, which are designed to act as substitutes for the banned terms. These considerations are important in terms of how the "effectiveness" of prohibitions on packaging information are evaluated.

REFERENCES

[1] Shapiro SJ, Perreault WD, McCarthy EJ. Basic Marketing: A global managerial approach. McGraw-Hill.1999. Toronto.

[2] Underwood RL, Klein NM, Burke RR. Packaging communication: attentional effects of product imagery. *J Product Brand Manage* 2001;10:403–22.

[3] Meyers H, Lubliner MJ. The marketer's guide tosuccessful package design. Chicago, Illinois, USA:NTC Business Books, 1998.

[4] Slade J. The pack as advertisement. *Tob Control* 1997; 6: 169-170.

[5] Underwood RL, Ozanne J. Is your package an effective communicator? A normative framework for increasing the communicative competence of packaging. *Journal of Marketing Communication* 1998:207-20.

[6] Palmer A. The Product. *Principles of Marketing*. Oxford: Oxford University Press/Books 2000:215-38.

[7] Pollay RW. The role of packaging seen through industry documents. Mar 2001. Expert Report prepared for: JTI-Macdonald., Imperial Tobacco Canada Ltd and Rothmans, Benson & Hedges Inc. v. Attorney General of Canada and Canadian Cancer Society (intervenor). Supreme Court, Province of Quebec, District of Montreal. Defense Exhibit D-116.

[8] Thibodeau M, Martin J. Smoke gets in your eyes: a fine blend of cigarette packaging and design. New York, USA: Abbeyville Press, 2001.

[9] Wakefield M, Morley C, Horan JK, Cummings KM. The cigarette pack as image: new evidence from tobacco industry documents. Tob Control 2002 Mar;11 Suppl 1:I73-80.

[10] Koten J. Tobacco Marketers' Success Formula: Make Cigarettes in Smoker's Own Image. *Wallstreet Journal*. 29 Feb 1980. 22.

[11] Untitled (Speech notes of a Brown and Williamson employee.). No Date 1985. Bates range 699126062/6073. http://legacy.library.ucsf.edu/tid/knn70f00

[12] British American Tobacco. The vanishing media. 1978. Bates range 500062147/2159.

[13] Wakefield M, Letcher T. My pack is cuter than your pack. *Tobacco Control* 2002;11:154-156.

[14] Dewhirst T. POP goes the power wall? Taking aim at tobacco promotional strategies utilised at retail. *Tobacco Control* 2004;13:209-210

[15] Wakefield MA, Ruel EE, Chaloupka FJ, Slater SJ, Kaufman NJ. Association of point-of-purchase tobacco advertising and promotions with choice of usual brand among teenage smokers. *J Health Commun* 2002 Mar-Apr;7(2):113-21.

[16] Wakefield MA, Terry-McElrath YM, Chaloupka FJ, *et al.* Tobacco industry marketing at point of purchase after the 1998 MSA billboard advertising ban. *Am J Public Health* 2002;92:937–40.

[17] Celebucki CC, Diskin K. A longitudinal study of externally visible cigarette advertising on retail storefronts in Massachusetts before and after the Master Settlement Agreement. *Tobacco Control* 2002;**11** (suppl II) :ii47–53.

[18] Miller L. Principles of measurement of visual standout in pack design. Report No. RD 2039 Restricted. Group Research & Development Centre, British American Tobacco Co Ltd, May 23, 1986. Bates No. 102699347-102699500

[19] Hammond D. Canada: a new angle on packs. *Tob Control* 2006;15(3):150-a-.

[20] Speaking Notes for Jeff Guiler, Vice president marketing, Imperial Tobacco Canada. Giovanni Barezzi Award Ceremony, February 9, 2006; Bologna, Italy.

[21] Carter SM. Going below the line: creating transportable brands for Australia's dark market. *Tobacco Control* 2003;12 (Suppl 3):iii87-iii94.

[22] Hulit M . Marketing issues corporate affairs conference May 27, 1994—Manila. 27 May 1994. Philip Morris. Bates No. 2504015017/5042 http://legacy.library.ucsf.edu/tid/jga42e00.

[23] Cummings KM, Morley C, Horan J, *et al*. Marketing to America's youth: evidence from corporate documents. *Tobacco Control* 2002;11(suppl I):i5–17.

[24] DiFranza JR, Eddy JJ, Brown LF, *et al*. Tobacco acquisition and cigarette brand selection among the youth. Tob Control. 1994;3:334–8.

[25] Pollay RW. Targeting youth and concerned smokers: evidence from Canadian tobacco industry documents. *Tob Control* 2000;, 9(2): 136-47.

[26] British American Tobacco. The vanishing media. 1978. Bates range 500062147/2159.

[27] Goldberg ME, Pa St U, Kindra G, Univ Of O, Lefebvre J, Tribu L, et al. When Packages Can't Speak: Possible Impacts of Plain and Generic Packaging of Tobacco Products. Mar 1995. Bates No. 521716345/6771. http://legacy.library.ucsf.edu/tid/rce50d00

[28] Fischer PM, Schwartz MP, Richards JW Jr, Goldstein AO, Rojas TH. Brand logo recognition by children aged 3 to 6 years. Mickey Mouse and Old Joe the Camel. JAMA 1991;266(22):3145-8

[29] Beirne M. RJR Gets Over the 'Hump' With Camel No. 9 for Women. *Brandweek* 2007;48:6.

[30] U.S. Surgeon General. Factors influencing tobacco use among women. In: *Surgeon General'sReport – Women and Smoking* 2001: pp.453-536.

[31] Aubin H. Are 'Generic' Packs Cigarettes' Future? 08/e Nov 1989. Bates range 202338359. http://bat.library.ucsf.edu//tid/per26a99

[32] Beirne M. RJR Gets Over the 'Hump' With Camel No. 9 for Women. *Brandweek* 2007;48:6.

[33] Carpenter CM, Wayne GF, Connolly GN. Designing cigarettes for women: new findings from the tobacco industry documents. Addiction 2005;100(6):837-51.

[34] U.S. Surgeon General. Factors Influencing Tobacco Use Among Women. In: Surgeon General's Report—Women and Smoking. 2001: pp.453-536.

[35] Chapman S. Australia: British American Tobacco "addresses" youth smoking. *Tob Control* 2007;16:2-3.

[36] Wilson N, Thomson G, Howden-Chapman P, Signal L. Regulations should ban the sale of cigarette pack covers of health warnings. N Z Med J 2006;119(1243):U2251.

[37] Freeman B, Chapman S, Rimmer M. The case for the plain packaging of tobacco products. Addiction 2008; 103(4): 580-90.

[38] Mawditt N. Putting pack opportunities into the frame. *World Tobacco* 2006;(212):36-7.

[39] Aftab M, Kolben D, Lurie P. International cigarette labelling practices. *Tob Control* 1999; 8(4): 368-72.

[40] Hammond D, Fong GT, Borland R, McNeill A, Cummings KM, Hastings G. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control* 2006;15(Suppl III):iii19–iii25.

[41] Brown KS, Diener A, Ahmed R, Hammond D. Survey Methods. In: 2002 Youth Smoking Survey Technical Report. 2005. Health Canada, Ottawa. http://www.hc-sc.gc.ca/hl-vs/pubs/tobac-tabac/yss-etj-2002/index_e.html

[42] Health Canada. *The Health effects of tobacco and health warning messages on cigarette packages—Survey of adults and adults smokers: Wave 9 surveys.* Prepared by Environics Research Group; January, 2005.

[43] Fong et al. International Tobacco Control Policy Evaluation Survey: ITC South East Asia Survey; 2007.

[44] Cragg, Ross, & Dawson Ltd. *Health warnings on cigarette and tobacco packs: Report on research to inform European standardization.* London, Dec 1990.

[45] Health Education Authority. *Health warnings on cigarette and tobacco packs: report on research to inform European standardization*; London, 1990.

[46] Action on Smoking and Health. *Tobacco product warnings: a survey of effectiveness;* London, 1998.

[47] Centre for Behavioural Research in Cancer, ACCV. *Health warnings and contents labelling on tobacco products*,1992.

[48] Strahan EJ, White K, Fong GT, Fabrigar LR, Zanna MP, Cameron R. Enhancing the effectiveness of tobacco package warning labels: a social psychological perspective. *Tob Control* 2002; 11(3):183-90.

[49] AGB Spectrum Research Ltd. *Testing the positions of health warnings on cigarette packages*. Prepared for Health Promotion Programme, Department of Health, New Zealand, 1987.

[50] Linthwaite P. Health warnings. *Health Educ J* 1985; 44: 218-219.

[51] Environics Research Group Ltd. *Reactions to cigarette packaging formats*. Prepared for the Canadian Cancer Society, Focus Canada 1999-1 March 1999.

[52] Les Études De Marche Createc. Quantitative study of Canadian youth smokers and vulnerable non smokers: Effects of modified packaging through increasing the size of warnings on cigarette packages. Prepared for Health Canada; April 2008.

[53] Les Études de Marche Createc. Quantitative study of Canadian adult smokers: Effects of modified packaging through increasing the size of warnings on cigarette packages. April 2008. Health Canada. Accessed 5 January 2008.

[54] Fischer PM, Richards EJB, Krugman DM. Recall and eye tracking study of adolescents viewing tobacco advertisements. *JAMA* 1989; 261: 84-89.

[55] Krugman DM, Fox RJ, Fletcher JE, Rojas TH. Do adolescents attend to warnings in cigarette advertising? An eye tracking approach. *J Advert Res* 1994; Nov/Dec: 39-52.

[56] Crawford MA, Balch GI, Mermelstein R, and the Tobacco Control Network Writing Group. Responses to tobacco control policies among youth. *Tob Control* 2002; 11: 14–19.

[57] Hulit M . Marketing issues corporate affairs conference May 27, 1994—Manila. 27 May 1994. Philip Morris. Bates No. 2504015017/5042 http://legacy.library.ucsf.edu/tid/jga42e00 (Accessed Jul 30, 2007).

[58] Northrup, David, and Pollard, J. 1995. *Plain Packaging of Cigarettes, Event Marketing to Advertise Smoking and other Tobacco Issues: A Survey of Grade Seven and Grade Nine Ontario Students.* Toronto, Ontario: York University.

[59] Laugesen M. *Optimal wording and pack position for strong varied disease warnings on cigarette packs in New Zealand*. In: Proceedings of the Seventh World Conference in Tobacco or Health, 1990.

[60] Nilsson T. *Legibility of tobacco health messages with respect to distance*. A report to the Tobacco Products Division of the Health Protection Branch of Health and Welfare Canada, 1991.

[61] CRÉATEC + Market Studies. *Effectiveness of Health Warning Messages on Cigarette Packages in Informing Less-literate Smokers, Final Report*. Prepared for Communication Canada, Dec 2003.

[62] Malouff J, Gabrilowitz D, Schutte N. Readibility of health warnings on alcohol and tobacco products. *Am J Public Health* 1992; 82(3): 464.

[63] CRÉATEC + Market Studies. *Effectiveness of Health Warning Messages on Cigarette Packages in Informing Less-literate Smokers, Final Report*. Prepared for Communications Canada, Dec 2003.

[64] Millar WJ. Reaching smokers with lower educational attainment. *Health Rep* 1996; 8: 11-9.

[65] Siahpush M, McNeill A, Hammond D, Fong GT. Socioeconomic and country variations in knowledge of health risks of tobacco smoking and toxic constituents of smoke: Results from the 2002 International Tobacco Control Policy Evaluation Survey. *Tob Control* 2006; 15(Suppl III): iii65–iii70.

[66] Tandemar Research Inc. *Cigarette Packaging Study: The Evaluation of New Health Warning Messages.* Toronto (ON): Tandemar Research Inc., 1996.

[67] Borland R, Hill D. Initial impact of the new Australian tobacco health warnings on knowledge and beliefs. *Tob Control* 1997; 6: 317-325.

[68] Portillo F and Antonanzas F. Information disclosure and smoking risk perceptions: potential short-term impact on Spanish students of the new European Union directive on tobacco products. *European Journal of Public Health* 2002;12:295-301.

[69] Hammond D, Fong GT, Borland R, McNeill A, Cummings KM, Hastings G. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control* 2006;15(Suppl III):iii19–iii25.

[70] Fong, G.T., Ratte, S., Craig, L., Driezen, P., Wilquin, J-L, Beck, F., Guignard, R., Kennedy, R.D., & Arwidson, P. (2008, May 27). Évaluation des politiques de lutte contre le tabagisme en France: résultats de la première vague de l'enquête ITC France [Evaluating tobacco control policies in France: Results of the first wave of the ITC France Survey.] Bulletin Épidémiologique Hebdomadaire (Numéro thématique—Journée mondiale sans tabac 2008) [Weekly Epidemiological Bulletin (Special Issue—World No Tobacco Day 2008)], 22-22, 183-187.

[71] Levie WH, Lentz R. Effects of text illustrations: A review of research. *Educational Communication and Technology Journal* 1982; *30*: 195-232.

[72] Braun CC, Kline PB, Silver NC. The influence of colour on warning label perceptions. *International Journal of Industrial Ergonomics* 1995; 15: 179-187.

[73] Wogalter WS, Godfrey SS, Fontenelle GA, Desaulniers DR, Rothstein PR, Laughery KR. Effectiveness of warnings. *Human Factors* 1987; 29: 599-612.

[74] Sherman SJ, Cialdini RB, Schwartzman DF, Reynolds KD. Imagining can heighten or lower the perceived likelihood of contracting a disease: The mediating effect of ease of imagery. *Personality and Social Psychology Bulletin* 1985; 11: 118-127.

[75] Leventhal H. Findings and theory in the study of fear communications. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 119-186)(Vol. 5). New York: Academic Press, 1970.

[76] Dewar RE. 1999. Design and evaluation of public information symbols. In: Zwaga HJG, Boersma T, Hoonhout HCM, editors. Visual information for everyday use: Design and research perspectives. London: Taylor and Francis. pp. 285–303.

[77] Sojourner RJ, Wogalter MS. 1998. The influence of pictorials on the comprehension of and recall of pharmaceutical safety and warning information. Int J Cog Ergon 2:93–106.

[78] Kalsher MJ, Wogalter MS, Racicot BM. 1996. Pharmaceutical container labels and warnings: Preference and perceived readability of alternative designs and pictorials. Int J Indus Ergon 18:83–90.

[79] Leonard SD, Otani H, Wogalter MS. 1999. Comprehension and memory. In: Wogalter MS, DeJoy DM, Laughery KR, editors. Warnings and Risk Communication. London: Taylor and Francis. pp. 149–187.

[80] Winder C, Azzi R, Wagner D. The development of the globally harmonized system (GHS) of classification and labelling of hazardous chemicals. *J Hazard Mater* 200; 125(1-3): 29-44.

[81] Banda SF, Sichilongo K. Analysis of the level of comprehension of chemical hazard labels: A case for Zambia. *Science of the Total Environment* 2006; 363: 22–27.

[82] Hara K, Mori M, Ishitake T, et al. Results of recognition tests on Japanese subjects of the labels presently used in Japan and the UN-GHS labels. *J Occup Health* 2007;49(4):260-7.

[83] Liefeld JP. *The Relative Importance of the Size, Content and Pictures on Cigarette Package Warning Messages*. Department of Consumer Studies, University of Guelph, Prepared for Health Canada, 1999.

[84] O'Hegarty M, Pederson LL, Nelson DE, Mowery P, Gable JM, Wortley P. Reactions of young adult smokers to warning labels on cigarette packages. *Am J Prev Med* 2006 Jun;30(6):467-73.

[85] Environics Research Group. Testing New Health Warning Messages for Cigarette packages: A Summary of Three Phases of Focus Group Research: Final Report, Prepared for Health Canada, 2000.

[86] Corporate Research Associates. Creative Concept Testing for Health Warning Messages. Prepared for Health Canada, 2005.

[87] Les Etudes de Marche Createc. Final Report: Qualitative testing of health warnings messages. Prepared for the Tobacco Control Programme Health Canada, June 2006.

[88] Elliott & Shanahan (E&S) Research. Developmental Research for New Australian Health Warnings on Tobacco Products Stage 2. Prepared for: The Australian Population Health Division Department of Health and Ageing. Commonwealth of Australia, August 2003.

[89] Clemenger BBDO. Marketing inputs to assist the development of health warnings for tobacco packaging. Report to the Ministry of Health: Review of the Smoke-free Environments Regulations, 2004.

[90] BRC Marketing & Social Research. Smoking health warnings Stage 1: The effectiveness of different (pictorial) health warnings in helping people consider their smoking-related behaviour. Prepared for the New Zealand Ministry of Health; May 2004.

[91] BRC Marketing & Social Research. Smoking health warnings Stage 2: Optimising smoking health warnings-text graphics, size, and colour tesing. Prepared for the New Zealand Ministry of Health; August 2004.

[92] Liefeld JP. The Relative Importance of the Size, Content and Pictures on Cigarette Package Warning Messages. Department of Consumer Studies, University of Guelph. Prepared for Health Canada, 1990.

[93] Environics Research Group. Testing New Health Warning Messages for Cigarette packages: A Summary of Three Phases of Focus Group Research: Final Report. Prepared for Health Canada, 2000.

[94] Elliott & Shanahan (E&S) Research. Developmental Research for New Australian Health Warnings on Tobacco Products Stage 2. Prepared for: The Australian Population Health Division Department of Health and Ageing. Commonwealth of Australia, Aug 2003.

[95] Clemenger BBDO. Marketing inputs to assist the development of health warnings for tobacco packaging. Report to the Ministry of Health: Review of the Smoke-free Environments Regulations, 2004.

[96] Hammond D, Fong GT, Borland R, Cummings KM, McNeill A, Driezen P. Text and Graphic Warnings on Cigarette Packages: Findings from the ITC Four Country Survey. *Am J Prev Med* 2007; 32 (3): 202–209.

[97] Hammond D, Fong GT, McDonald P, Cameron R, Brown SK. Impact of the graphic Canadian warning labels on adult smoking behaviour. *Tob Control* 2003; 12: 391-395.

[98] Hammond D, Fong GT, McDonald P, Brown, KS, Cameron R. Graphic Canadian warning labels and adverse outcomes: evidence from Canadian smokers. *Am J Public Health* 2004; 94 (8): 1442-45.

[99] Thrasher JF, Hammond D, Fong GT, Arillo-Santillan, E. Smokers' reactions to cigarette package warnings with graphic imagery and with only text: A comparison between Mexico and Canada. Salud Publica Mex 2007; 49 suppl 2: S233-40.

[100] Hammond D. The Case for Plain Packaging: Labelling practices for tobacco smoke emissions. National Conference on Tobacco or Health; 1 October 2007: Edmonton, Alberta.

[101] White V, Webster B, Wakefield M. Do graphic health warning labels have an impact on adolescents' smoking related beliefs and behaviours? Under review; 2007.

[102] Borland R, Yong HH, Wilson N, Fong GT, Hammond D, Cummings KM, Hosking W, McNeill A. How reactions to cigarette packet health warnings influence quitting: findings from the ITC Four-Country survey. *Addiction* 2009; In press.

[103] Vardavas CI, Connolly G, Karamanolis K, Kafatos A. Adolescents perceived effectiveness of the proposed European graphic tobacco warning labels. *Eur J Public Health* 2009; In press.

[104] WHO Framework Convention on Tobacco Control. Conference of the parties to the WHO Framework Convention on Tobacco Control. Final Report Committee A. World Health Organization, 2008. Available at: http://www.tobaccolabels.ca/fctcandh/fctcarticl

[105] Ruiter RAC, Kok G. Saying is not (always) doing: cigarette warning labels are useless. *Eur J Public Health* 2005;15:329.

[106] Nascimento BEM, Oliveira L, Vieira AS, Joffily M, Gleiser S, Pereira MG, Cavalcante T, Volchan E. Avoidance of smoking: the impact of warning in Brazil. *Tob. Control* 2008;17;405-409.

[107] Goodall C, Appiah O. Adolescents' perceptions of Canadian cigarette package warning labels: Investigating the effects of message framing. *Health Communication* 2008; 23: 117–127.

[108] Wegner DM. Ironic process of mental thought. *Psychol Rev* 1994; 101: 34-52.

[109] Borland R, Hammond D, Fong GT, et al. Findings from the ITC-4 Country Study: Wave 5.

[110] Witte K, Allen M. A meta-analysis of fear appeals: implications for effective public health campaigns. *Health Educ Behav* 2000; 27:591–615.

[111] UK Department of Health. *Consultation on the Introduction of Picture Warnings on Tobacco Packs: Report on Consultation*. August, 2007. Available at: http://www.dh.gov.uk/en/Consultations/Responsestoconsultations/DH_077960

[112] Willemsen MC. The new EU cigarette health warnings benefit smokers who want to quit the habit: results from the Dutch Continuous Survey of Smoking Habits. *Eur J Public Health* 2005; 15(4): 389-92.

[113] Canadian Cancer Society Evaluation of New Warnings on Cigarette Packages. Prepared by: Environics, Focus Canada 2001-3; 2001.

[114] Hill D. New cigarette-packet warnings: are they getting through? *Med J Aust* 1988; 148: 478-480.

[115] Persbericht Defacto: 28% van jonge rokers rookt minder door de nieuwe waarschuwingen op verpakking, Den Haag 26 november 2002.

[116] Borland R, Hill D. Initial impact of the new Australian tobacco health warnings on knowledge and beliefs. Tob Control 1997; 6: 317-325.

[117] Koval JJ, Aubut JA, Pederson LL, O'Hegarty M, Chan SS.The potential effectiveness of warning labels on cigarette packages: the perceptions of young adult Canadians. *Can J Public Health* 2005; 96(5):353-6.

[118] Cavalcante TM. Labelling and Packaging in Brazil National Cancer Institute, Health Ministry of Brazil; World Health Organization. Available at: http://www.who.int/tobacco/training/success_stories/en/best_practices_brazil_labelling.pdf

[119] Channel News Asia. Smokers heed graphic warnings on cigarette packs: HPB Singapore Health Promotion Board Press Release. 16 May 2006. Available at: http://www.channelnewsasia.com/stories/singaporelocalnews/view/208614/1/.html

[120] Afifah R, Schwarz E. Patient demand for smoking cessation advice in dentist offices after introduction of graphic health warnings in Australia. *Aust Dent J* 2008;53(3):208-16.

[121] UK Department of Health. *Consultation on the introduction of picture warnings on tobacco pack.* May 2006. Available at: http://www.dh.gov.uk/assetRoot/04/13/54/96/04135496.pdf .

[122] Willemsen MC, Simons C, Zeeman. G. Impact of the new EU health warnings on the Dutch quit line. *Tob Control* 2002; 11: 382.

[123] Cancer Council of Victoria. *New set of graphic health warnings on cigarettes to hit the shelves, as data shows confronting images increase Quitline calls*. 28 Feb 2007. Available at: http://www.quit.org.au/media.asp?ContentID=19175

[124] Li J, Grigg M. New Zealand: new graphic warnings encourage registrations with the quitline. Tob Control 2009; 18: 72.

[125] Hyland M, Birrell J. Government health warnings and the "boomerang" effect. *Psychol Rep* 1979; 44: 643-647.

[126] Brubaker RG, Mitby SK. Health-risk warning labels on smokeless tobacco products: are they effective? *Addict Behav* 1990; 15(2): 115-8.

[127] Thrasher JF, Rousu MC, Ocampo-Anaya R, Reynales-Shigematsu LM, Arillo-Santillán E, Hernández-Ávila M. Estimating the impact of graphic warning labels on cigarette packs: The auction method. *Salud Publica Mex* 2006;48 Suppl 1:S155-66.

[128] Thrasher JF, Rousu MC, Anaya-Ocampo R, Reynales-Shigematsu LM, Arillo-Santillan E, Hernandez-Avila M. Estimating the impact of different cigarette package warning label policies: The auction method. *Addict Behav* 2007;32(12):2916-2925.

[129] Stark E. Kim, A, Miller C, Borgida E. Effects of Including a Graphic Warning Label in Advertisements for Reduced-Exposure Products: Implications for Persuasion and Policy. *Journal of Applied Social Psychology* 2008; 38(2): 281–293.

[130] JTI-MacDonald Inc. c. Procureure Générale du Canada (2002) C.S., p42.

[131] Guttman N, Peleg H. Public preferences for an attribution to government or to medical research versus unattributed messages in cigarette warning labels in Israel. *Health Commun* 2003; 15(1): 1-25.

[132] Environics Research Group. Canadian adult and youth opinions on the sizing of health warning messages. Environics Research Group Limited, 1999.

[133] Borland R, Hill, D. The path to Australia's tobacco health warnings. *Addiction* 1997; 92: 1151-1157.

[134] International Tobacco Control Policy Evaluation Survey: ITC Uruguay Project. Wave 1 Data; 2006.

[135] International Tobacco Control Policy Evaluation Survey: (ITC) South-East Asia Adult Survey. Wave 2 Data; 2007.

[136] Henderson B. Wear out: An empirical investigation of advertising wear-in and wear-out. *J Advert Res* 2000; 6: 95-100.

[137] Bornstein RF. Exposure and affect: Overview and meta-analysis of research. *Psychol Bull* 1989; 106: 265-289.

[138] Health Canada. *Health Warning Testing: Final Report*. Prepared by Environics Research Group, 1999.

[139] Informa Market Research Co Ltd. *Focus group research on new health warnings on tobacco packages*. 1999.

[140] Hammond D, et al. *Measures to evaluate the effectiveness of tobacco product labelling policies. In: IARC Handbook II: Evaluating the Effectiveness of Population Based Tobacco Control*. International Agency for Research on Cancer, 2007.

[141] Chapman S, Carter SM. "Avoid health warnings on all tobacco products for just as long as we can": a history of Australian tobacco industry efforts to avoid, delay and dilute health warnings on cigarettes. *Tob Control* 2003; 12 Suppl 3:iii13-22.

[142] Alechnowicz K, Chapman S. The Philippine tobacco industry: "the strongest tobacco lobby in Asia". *Tob Control* 2004;13 Suppl 2:ii71-8.

[143] BAT (British-American Tobacco Company). 1995. *1995 Key Area Paper: Corporate Affairs*. Web Page. Available at: http://www.library.ucsf.edu/tobacco/batco/html/7200/7265/otherpages/allpages.html

[144] Hearn J. Shippers dragged into tax battle over online sales of cigarettes. *The Hill*. June: 13.

[145] Les Études de Marche Createc. Health Warning Messages on Smokeless Tobacco, Cigars and Pipe Products A Qualitative Study with Consumers. Prepared for Health Canada Tobacco Control Programme. April 2003.

[146] Hoffmann I, Hoffman D. *The changing cigarette: chemical studies and bioassays* (Boyle P, Gray N, Henningfield J, Sefrin J, Zatonski W. Eds). Oxford University Press. New York; 2004: p.53-92.

[147] Pollay RW, Dewhirst T. *Marketing cigarettes with low machine measured yields In: Smoking and Tobacco Control Monograph 13: Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine.* US Department of Health and Human Services. Bethesda, MD: US Department of Health and Human Services, Public Health Services, National Institutes of Health; National Cancer Institute, 2001:199–233.

[148] Tobacco: End of the Tar Derby. Feb 15, 1960. Time. http://www.time.com/time/magazine/article/0,9171,871506,00.html (accessed Jul 30, 2007)..

[149] US Department of Health and Human Services. *Risks associated with smoking cigarettes with low machine measured yields of tar and nicotine.* Bethesda, MD, USA: US Department of Health and Human Services, Public Health Services, National Institutes of Health; National Cancer Institute, 2001.

[150] Health Canada. *Toxics information on cigarette packaging: Results of a survey of smokers*. Prepared by Environics Research Group; May 2003.

[151] O'Connor RJ, Kozlowski LT, Borland R, Hammond D, McNeill A. Relationship between constituent labelling and reporting of tar yields among smokers in four countries. *J Public Health* 2006; 28(4):324-9.

[152] Chapman S, Wilson D, Wakefield M. Smoker's understandings of cigarette yield labels. *Med J Aust* 1986; 145: 376-379.

[153] Cohen JB. *Consumer/smoker perceptions of Federal Trade Commission Tar Ratings. The FTC Cigarette Test Method for Determining Tar, Nicotine, and Carbon Monoxide Yields of U.S. Cigarettes*. Report of the NCI Expert Committee. Smoking and Tobacco Control Monograph No. 7. U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Publication No. 96-4028, 1996.

[154] Gori GB. Consumer perception of cigarette yields: Is the message relevant? *Regul Toxicol Pharmacol* 1990; 12: 64-68.

[155] Devlin E, Eadie D, Angus K. Low tar product category. Prepared for NHS Health Scotland. Glasgow, UK: Centre for Tobacco Control Research, 2003. http://www.tobaccopapers.com/casestudies/index.htm#lowtarproduct

[156] Hammond et al. Tobacco Control (ITC) Four Country Survey. Wave 5 Data; 2007.

[157] Federal Trade Commission. Federal Trade Commission Cigarette Report for 2004 and 2005. 2007. http://www.ftc.gov/reports/tobacco/2007cigarette2004-2005.pdf

[158] Hammond D, Fong GT, Cummings KM, O'Connor RJ, Giovino GA, McNeil A. Cigarette yields and human exposure: a comparison of alternative smoking regimes. Cancer Epidemiology, Biomarkers, & Prevention 2006; 15(8):1495-501.

[159] WHO Study Group on Tobacco Product Regulation. Guiding principles for the development of tobacco research and testing capacity and proposed protocols for the initiation of tobacco product testing, 2004. http://www.who.int/ tobacco/global_interaction/ tobreg/goa_2003_principles/en/index.html (accessed Oct 20, 2006).

[160] Health Canada. *Summary Report of Four Focus Groups in Toronto & Montreal on Awareness and Understanding on Toxic Emissions Information on Tobacco Packaging*. March, 2003.

[161] Pollay RW, Dewhirst T. The dark side of marketing seemingly "Light" cigarettes: successful images and failed fact. *Tob Control* 2002; 11(Suppl 1): i18-31.

[162] Kozlowski LT, Dreschel NA, Stellman SD, Wilkenfeld J, Weiss EB, Goldberg ME. An extremely compensatible cigarette by design: documentary evidence on industry awareness and reactions to the Barclay filter design cheating the tar testing system. *Tob Control* 2005; 14(1): 64-70.

[163] Dunn WL, Johnston ME. Market potential of a health cigarette. Jun 1966. Bates No. 1000338644/8653. http://tobaccodocuments.org/landman/1000338644-8671.html

[164] Dunn WL, Johnston ME. Market potential of a health cigarette. Jun 1966. Bates No. 1000338644/8653. http://tobaccodocuments.org/landman/1000338644-8671.html

[165] Hammond et al. International Tobacco Control Evaluation Project: Findings from the ITC 4-Country Study: Wave 5. 2007.

[166] Shiffman S, Pillitteri JL, Burton SL, Rohay JM, Gitchell JG. Smokers' beliefs about "light" and "ultra light" cigarettes. *Tob Control* 2001; 10(Suppl I): i17-i23.

[167] Ashley MJ, Cohen J, Ferrence R. 'Light' and 'mild' cigarettes: who smokes them? Are they being misled? *Can J Public Health* 2001; 92(6): 407-11.

[168] Etter JF, Kozlowski LT, Perneger TV. What smokers believe about light and ultralight cigarettes. *Prev Med* 2003; 36(1): 92-8.

[169] Gilpin EA, Emery S, White MM, Pierce JP. Does tobacco industry marketing of 'light' cigarettes give smokers a rationale for postponing quitting? *Nicotine Tob Res* 2002; 4: S147-55.

[170] Weinstein ND. *Public Understanding of Risk and Reasons for Smoking Low-Yield Products. 193-98. In: Smoking and Tobacco Control Monograph 13: Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine*. US Department of Health and Human Services. Bethesda, MD: US Department of Health and Human Services, Public Health Services, National Institutes of Health; National Cancer Institute, 2001: 193-98.

[171] Hammond D, Dockrell M, Arnott D, Lee A, Anderson S, McNeill A. Cigarette pack design and perceptions of risk among UK adult and youth: evidence in support of plain packaging. National Cancer Research Institute Conference, 2008 October 5; Birmingham, UK.

[172] Ling PM, Glanz SA. Tobacco industry research on smoking cessation: recapturing young adults and other recent quitters. *J Gen Intern Ned* 2004; 19 (Pt 1): 419-26.

[173] Fong et al. Findings from the ITC-China Survey. September, 2007.

[174] Freedman HH, Dipple WS. The effect of masculine and feminine brand names on the perceivedtaste of a cigarette. *Decision Sci* 1978; 9: 467-71.

[175] Framework Convention Alliance. Briefing paper: Guidelines on Article 11. November, 2007.

[176] King B, Borland R. What was "light" and "mild" is now "smooth" and "fine": new labelling of Australian cigarettes. *Tob Control* 2005; 14(3): 214-5.

[177] Borland R, Fong GT, Yong HH, Cummings KM, Hammond D, et al.What Happened to Smokers' Beliefs about Light Cigarettes When "Light/Mild" Brand Descriptors Were Banned in the UK? Findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control*, In Press.

[178] Philip Morris, Marketing New Products in a Restrictive Environment. June 1990. Access date: September 3, 2001. Bates No. 2044762173-2364. URL: http://www.pmdocs.com/getallimg.asp?if=avpidx&DOCID=2044762173/2364

[179] Gordon A, Finlay K, Watts T. The psychological effects of color in consumer product packaging. *Canadian Journal of Marketing Research* 1994;13: 3–11.

[180] Kindra GS, Laroche M, Muller TE. *Consumer Behavior :the Canadian Perspective.* 2nd ed. Scarborough (Canada): Nelson Canada, 1994.

[181] McBride C. A summary of brand imagery studies on Canadian products. Imperial Tobacco Limited Research and Development Division. September 1987. Access date: February 20, 2007. Bates No. 570506735-6787. URL: http://legacy.library.ucsf.edu/tid/mdb51f00/pdf?search=%22a%20summary%20of%20brand%20imagery%20studies%20on%20canadian%20products%22

[182] Aubin H. Are 'Generic' Packs Cigarettes' Future? 08/e Nov 1989. Bates range 202338359. http://bat.library.ucsf.edu//tid/per26a99

[183] Cunningham R, Kyle K. The case for plain packaging. *Tob Control* 1995; 4: 80-6.

[184] Northrup, David, and Pollard, J. 1995. *Plain Packaging of Cigarettes, Event Marketing to Advertise Smoking and other Tobacco Issues: A Survey of Grade Seven and Grade Nine Ontario Students.* Toronto, Ontario: York University.

[185] Rootman I, Flay B. *A study on youth smoking plain packaging, health warnings, event marketing, and price reductions key findings*. Toronto: University of Toronto, Centre for Health Promotion; 1995.

[186] Wakefield MA, Germain D, Durkin SJ. How does increasingly plainer cigarette packaging influence adult smokers' perceptions about brand image? An experimental study. Tobacco Control 2008; 17:416-421.

[187] Jeffrey A. Trachtenberg. Here's one tough cowboy. Forbes 1987; 139: 108. 9 February 1987.

[188] Goldberg ME, Liefeld J, Madill J, Vredenburg H. The effect of plain packaging on response to health warnings. *American Journal of Public Health* 1999; 89: 1434-5.

[189] Beede P, Lawson R. The effect of plain packages on the perception of cigarette health warnings. *Public Health* 1992;106(4):315-22.

[190] Generic Packaging Meeting 22/9/93: Reference Documents. 22 Sep 1993. Bates range 502605081-150. http://bat.library.ucsf.edu//tid/msq47a99

[191] Plain packs group members. 07 Aug 1995. Bates range 900031440. http://bat.library.ucsf.edu//tid/thf51a99

[192] Dangoor D. PMI corporate affairs meeting, Rye Brook 950215 & 950216. 1 Mar 1995. Bates range 2048207342/7346. http://legacy.library.ucsf.edu/tid/dcg24c00