J.C. JONES, 1965 - 1984. BEGAN USING SNUFF WHEN HE WAS 13.
DIED OF MOUTH AND NECK CANCER AT AGE 19.

K. EVERETT. SMOKED ONLY LIGHT
AND MILD CIGARETTES FOR NEARLY 30 YEARS.
DIED OF LUNG CANCER IN 2003.

Tobacco: deadly in any form or disguise

World no tobacco day 2006



World Health Organization

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Tobacco: deadly in any form or disguise

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01

Introduction and overview

Tobacco addiction is a global epidemic that is ravaging the countries and regions that can least afford its toll of disability, disease, lost productivity and death.

The epidemic follows a course that has been documented in country after country, driven by an industry that puts profits ahead of life; its own growth ahead of the health of future generations; its own economic gain ahead of the sustainable development of struggling countries.

Now, as nations have begun to fight back and, in some countries, to turn back the epidemic, tobacco companies continue to develop new products to maintain their profits, often disguising these new products in a cloak of attractiveness and reduced harmfulness.

The challenge to health comes from large companies and small ones, from blockbuster cigarette brands, so-called organic cigarettes, chewing tobacco, waterpipes, cigars, and new hybrid products with charcoal heating elements, aluminium nicotine cartridges and computer-chip-controlled smoke-delivery systems. The truth is clear: all tobacco products are dangerous and addictive, and every effort should be made to discourage their use in any form. Governments should, in the meantime, make every effort to regulate all types of tobacco and raise awareness about its harmful and deadly effects.

Accurate information on tobacco product ingredients, toxin deliveries and health effects is needed for all tobacco products. For cigarettes, there have been some regulatory efforts to monitor the ingredients of the product and communications efforts to pass this health information on to the public, but even these efforts have been challenged and misrepresented by tobacco companies in their continuing attempts

to maintain the appeal of their products. Thus, despite a few governmental efforts, the only source of information for most consumers is that provided voluntarily by the industry itself, with results that remain deleterious for the health of individuals and populations. Tobacco companies give many reasons for failure to fully disclose the truth about their products. A few of these companies are part of corporations that also manufacture foods, beverages and even pharmaceuticals, for which truthful labelling is required in many jurisdictions. There is no reason other than profit for the companies not to be similarly forthcoming about tobacco products, and such disclosure is one purpose of regulation.

World No Tobacco Day 2006 is a tool for stripping away the disguise and revealing the truth behind tobacco products

Fortunately, tobacco control professionals learned valuable lessons from their studies of the 20th century strategies of the tobacco industry, as well as from the successes and failures of tobacco control efforts. This knowledge can be applied in order to gain a better understanding of the complexities of the various tobacco products and the motivations and misinformation spread by tobacco companies. Global health also benefits from the combined forces of the Parties to the World Health Organization's Framework Convention on Tobacco Control. The WHO Framework Convention is a powerful tool for containment of tobacco industry strategies aimed at undermining advances in public health.

The WHO Framework Convention was the global response of countries to the globalization of the tobacco epidemic. The preamble states: *"…scientific evidence has unequivocally established that tobacco consumption and exposure to tobacco smoke cause death, disease and disability, and that there is a time lag between the exposure to smoking and the other uses of tobacco products and the onset of tobacco-related diseases".* "Tobacco products" are defined in Article 1(f) as *"products entirely or partly made of the leaf tobacco as raw material which are manufactured to be used for smoking, sucking, chewing or snuffing".*

Therefore, the goals of World No Tobacco Day 2006 are to emphasize the harm associated with any use of any tobacco product, to highlight the role of the tobacco industry in undermining efforts to assess the real harm done by tobacco and to call on governments to enact stronger and wider regulation of tobacco products. The WHO Framework Convention paves the way for a better understanding of methods of regulating and controlling tobacco products. World No Tobacco Day 2006 aims to empower people and organizations with the knowledge they need to control tobacco more effectively and improve global health. It is a tool for stripping away the disguise and revealing the truth behind tobacco products – traditional, new and future.



Article 1(f) of the WHO FCTC

"…" tobacco products" means products entirely or partly made of the leaf tobacco as raw material which are manufactured to be used for smoking, sucking, chewing or snuffing". The following paragraph is in the preamble of the Treaty: "*…scientific evidence has unequivocally established that tobacco consumption and exposure to tobacco smoke cause* ***death, disease and disability,*** *and that there is a time lag between the exposure to smoking and the other uses of tobacco products and the onset of tobacco-related diseases*".

© 2001 John Noltner Photography. Source: www.noltner.com/travel2_cigars.html


02

A global epidemic of addiction and disease

TRENDS in the tobacco epidemic

Currently, there are an estimated 1.3 billion smokers in the world. The death toll from tobacco consumption is now 5 million people a year; if present consumption patterns continue, the number of deaths will nearly double, reaching close to 10 million by the year 2020.

The higher burden of death and disease is rapidly shifting to developing countries. Approximately one half of continuing cigarette smokers die prematurely from tobacco use. That is to say that about 650 million people (half the current smokers) alive today will eventually die from a tobacco-related disease, if they continue to smoke.

The above is the fundamental reason for regulating tobacco now. Governments, and especially legislators, have a responsibility to contribute towards regulating an industry whose main objective is to sell a product that causes harm and death.

Despite what we know about tobacco use today, tobacco consumption continues to increase worldwide. The epidemic is still expanding, especially in low- and middle-income countries. The tobacco industry has a huge potential market in these countries, where they often face weaker tobacco control measures and find a great number of possible new customers, among women in particular.

The tobacco epidemic has recently expanded among women worldwide. Recent surveys show that tobacco consumption among girls is increasing drastically around the globe, and that prevalence is, in many cases, comparable to or even greater than

that among boys. [I] Furthermore, youth tobacco use in India appears to be accelerating among the very young, with sixth-grade boys and girls greatly exceeding eighth-grade boys and girls in tobacco consumption. These trends raise the possibility that estimates of the mortality caused by tobacco are conservative and that the health impact will exceed even the dire figures above. This increases the urgency of implementation of strong tobacco control measures, as recommended by the WHO Framework Convention.

Although tobacco control is vital in all countries, the increasing burden of tobacco poses a particular challenge to economic and public health advances in developing countries. Many of these nations are making enormous efforts to improve health conditions during childbirth and decrease maternal and infant mortality, but are now facing an added burden in achieving this goal as the number of mothers who use tobacco products increases.

many developed nations have begun to slow and even reverse the tide of tobacco use and disease, projected deaths in developing nations are on the increase.

Comprehensive tobacco control measures aimed at reducing use and exposure can reduce disease risk and premature death. Regulation of tobacco products is one of the necessary components of comprehensive and effective tobacco control programmes.



It is the poor and the poorest who tend to smoke the most.

Premature death generally follows several years or more of excess disease and disability in tobacco users. This suffering and disease, in turn, contributes to the enormous tobacco-related costs. This is especially damaging to the economic development of countries with emerging economies. In fact, it is the economically emerging countries that are witnessing the greatest increases in tobacco use and hence in projected disease and death. It is the poor and the poorest who tend to smoke the most. In developed countries, smoking rates are highest among those with lower incomes. Currently, of the total number of smokers worldwide, 84% (that is, 1.09 billion people) live in developing and transitional economy countries. [II] And so, while

HEALTH effects of tobacco

Tobacco consumption continues to be the leading preventable cause of death in the world.

The wide range of serious health effects has been extensively reviewed.

However, the list of conditions caused by tobacco consumption has grown. It is now also known that tobacco use contributes to cataracts, pneumonia, acute myeloid leukaemia, abdominal aortic aneurysm, stomach cancer, pancreatic cancer, cervical cancer, kidney cancer, periodontitis and other diseases. [III]

These diseases join the familiar list of tobacco-related diseases, including cancer of the lung, vesicle, oesophagus, larynx, mouth and throat; chronic pulmonary disease, emphysema and bronchitis; stroke, heart attacks and other cardiovascular diseases. In fact, we know today that tobacco causes 90% of all lung cancers. [IV:1180] Tobacco seriously damages the reproductive system too, contributing to miscarriage, premature delivery, low birth weight, sudden infant death and paediatric diseases, such as attention hyperactivity deficit disorders. [III] Babies born to women who smoke are, on average, 200 grams lighter than babies born to comparable mothers who do not smoke. [III:565]

However, those who consume tobacco are not the only ones exposed to its negative effects. Millions of people, including one half of the world's children, are exposed to second-hand tobacco smoke, known also as passive smoking. There is conclusive evidence linking passive smoking to an increased risk of cardiovascular diseases, lung cancer and other cancers, asthma and other respiratory diseases in adults and asthma and other respiratory diseases, ear infection and sudden infant death syndrome in children, to name but a few of passive smoking's harmful effects. [V, VI]

Smoking has also been linked to a risk of developing cervical cancer which is four times higher than in non-smoking women. The latest United States Surgeon General's report on tobacco and health concluded that smoking causes cervical cancer, [VII] the leading killer among cancers in women worldwide.

There is a growing body of evidence linking smoking and an increased risk of tuberculosis infection, disease and mortality. Studies carried out in India, for instance, show that half the male tuberculosis deaths in that country are caused by smoking. [VIII]

The incidence of tuberculosis in some developing countries is high and has been aggravated lately by the HIV/AIDS epidemic. An increase in smoking prevalence in these countries could seriously increase the incidence of tuberculosis infection and mortality.

Combustible (or smoked) tobacco products are also among the leading causes of residential and forest fires in many countries. These fires destroy natural habitats, homes and other property, and kill smokers and non-smokers alike, including many children.

Addiction to a deadly product: no-one is safe

Tobacco is an addictive plant containing nicotine, many carcinogens [IX] and other toxins. When transformed into products designed to deliver nicotine efficiently, its toxic effects, responsible for causing many diseases, are often magnified because the process of increasing exposure to nicotine often results in increases in exposure to the many poisons in the products. Furthermore, the addiction results in decades of exposure to high levels of tobacco poison for most users. The diverse poisons in the plant, the poisons resulting from its processing and (in the case of combustible products) combustion, are powerful and easily absorbed by many routes into the human body. Much of the disease and premature mortality

caused by tobacco may be considered as side-effects of the disease of addiction. Tobacco dependence itself is a disease, described in the *International classification of diseases* (ICD-10). [x] As a chronic disease, often involving relapses, nicotine addiction requires proper treatment.

Addiction occurs in most (not all) tobacco users, but all are vulnerable. Nicotine is the drug in tobacco that causes addiction. However, there are other chemicals in tobacco that contribute to its addictive effects.

the addiction results in decades of exposure to high levels of tobacco poison for most users.

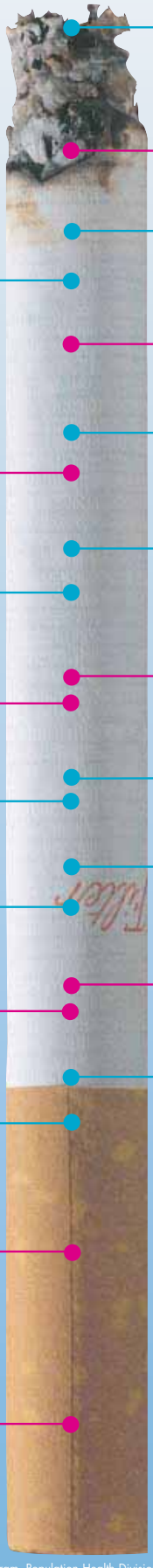
Tobacco-delivered nicotine is a chemical cocktail of substances that enhance the addictive effects of nicotine (see box – page 19 “Cigarettes: the ultimate chemical cocktail”). Modern tobacco products are engineered to regulate the speed and amount of nicotine delivery, which contributes to the risk of developing and sustaining addiction. For example, cigarettes are designed to deliver very small doses of nicotine with each puff, but to make it possible for users to obtain much larger doses by slightly larger puffs, more frequent puffs, or holding the cigarette more deeply in the mouth. Some smokeless tobacco companies market what they have named “starter” products, targeted at young people: the starter products are slower and lower in nicotine delivery than the “maintenance” products which most experienced smokeless tobacco users move on to use. [xi, xii, xiii]

The potential of addiction is also enhanced by increasing the speed of nicotine delivery to increase what tobacco companies call the “nicotine kick” or “impact” of their products. [xiv, xv] Tobacco products are designed to enhance the speed of delivery and to release higher quantities of the most potent chemical form of nicotine, namely “free base” or “non–ionized” nicotine. Adding chemicals to raise the pH makes the tobacco and smoke less acidic, thereby freeing up the nicotine. [xvi, xvii, xviii]

Smokeless tobacco products are also designed and manufactured “in a manner that promotes tolerance and addiction”, as concluded by the United States Food and Drug Administration following its extensive analysis of United States and Swedish products. [xix:45108] Specifically, manufacturers control the highly addictive “free base” portion of nicotine in the products, using buffering agents such as sodium carbonate and ammonium carbonate to manipulate the nicotine-dosing characteristics of the products. For example, products marketed as “starter” products are lower in free base nicotine and are flavoured to make them more attractive to young people. [xix, xx, xxi]

What's Your Poison?

When you smoke you inhale up to 4000 chemicals including these poisons:



Hydrogen Cyanide
(Poison used in gas chambers)

***Toluidine**

Ammonia
(Floor cleaner)

Acetone
(Paint stripper)

***Urethane**

Toluene
(Industrial solvent)

Naphthylamine*

Arsenic
(White ant poison)

Methanol
(Rocket fuel)

***Dibenzacridine**

Pyrene*

Phenol

Dimethylnitrosamine

Butane
(Lighter fuel)

Napthalene
(Mothballs)

***Polonium-210**

Cadmium*
(Used in car batteries)

DDT
(Insecticide)

Carbon Monoxide
(Poisonous gas in car exhausts)

Benzopyrene

Vinyl Chloride*

It's enough to make you sick. Very sick.

Quit

* Known cancer-causing substances

HP 1532

Produced by Quit WA Program, Population Health Division © Department of Health 2002

Reproduced with permission from Tobacco Control Branch, Population Health Division, Department of Health, Western Australia



03

The many forms of tobacco

TOBACCO PRODUCTS of today

Tobacco comes in many forms and with various methods of use, with various names and claims attached to them.

The manufactured products appear to be intended to enable the extraction and consumption of high enough doses of nicotine to alter the brain in order to provide pleasure and other addicting effects. All tobacco products share this ability and use.

Tobacco products in widespread use and commercial production are derived from three types of tobacco preparation:

→ **rolls of tobacco** which are smoked (e.g. bidi, cigar, cigarette)
→ **pipes** (including waterpipes)
→ **oral preparations** for chewing and holding in the mouth or placing in the nose (e.g. snuff, snus, betel quid).

Some involve regional culture and technology, whereas others are global.

Comparison of the relative toxicity of these products is fraught with peril. Typically, their toxicity is compared with the risks associated with smoking cigarettes, and far more epidemiological studies have been conducted on cigarette smokers than on users of other tobacco products. Traditional users of other tobacco products often consume less tobacco (e.g. they smoke fewer bidis or cigars or use less tobacco in waterpipes) than cigarette smokers. The limited epidemiology for these products therefore relates to lower consumption rates and is thus not directly comparable in evaluating the relative risks of these products.



Furthermore, it may happen that, in order to receive the nicotine dose to which they have become addicted, users of cigarettes who switch to alternative tobacco products may end up using a higher quantity of tobacco than traditional users.

Different types of tobacco products are associated with different types of diseases.

As tobacco companies manipulate the ingredients of the tobacco in these alternative products to make them less harsh, this may enable more people to smoke and increase the tobacco consumption per person; also, changes in the chemistry of the tobacco products may make the nicotine itself more addictive, as has happened for cigarettes.

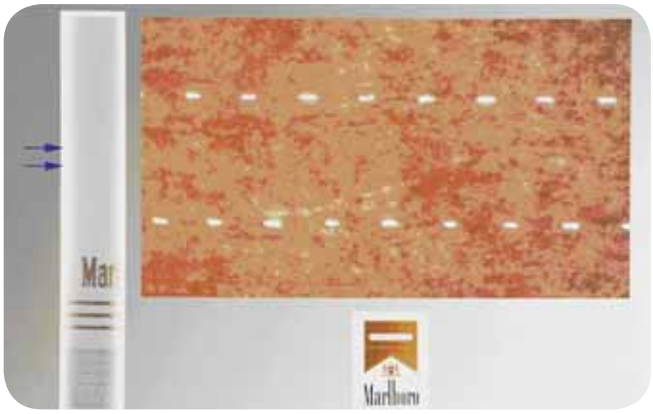
Furthermore, different types of tobacco products are associated with different types of diseases. For example, although smokeless tobacco products might not cause lung cancer and other diseases linked to smoke inhalation, their many other adverse health effects [xxii] still make them the major public health concern in some populations and regions.

The comparative risks of using different tobacco products are, therefore, not analysed in this document: we present only some existing factual evidence of the dangers associated with each product.

Cigarettes

Cigarettes are among the most deadly and addictive products ever produced by mankind. When used as intended by their manufacturers, they kill approximately one half of their users. There are several aspects of the cigarette and its evolution that have a great impact on the extent of the damage it does in public health terms. Understanding these will provide the basis for understanding the toxicity of other products and the regulatory challenges they pose.

The modern cigarette evolved from a 16th-century variant on the cigar, which enabled scrap tobacco pieces to be smoked by wrapping them in a small paper tube. Cigarettes then started to be manufactured with tobacco that was cured in such a manner that the tobacco and resultant smoke were acidic. Acidic smoke must be inhaled for efficient nicotine absorption, and the acidic smoke of cigarettes is easier to inhale than the mildly alkaline smoke typical of cigars.



Despite decades of advertised innovation, extravagant claims, allusions to reduced risk and healthy imagery, there is little evidence that the health risks of smoking modern cigarettes is substantially lower than those of smoking mid-20th-century cigarettes. Examples of the enhancements used by the industry to portray the new products as safer are the use of filters or the development of "light and mild" cigarettes.

See "Chronology of Deception" (central pages) for more details of the perils of these so-called "health improvements".

"Organic", "natural" and "additive-free" cigarettes

The terms "organic", "natural" and "additive-free", when applied to cigarettes, do not have the same meaning as for foods, for which many countries



Cigarettes: the ultimate chemical cocktail

Many of today's tobacco products have evolved over decades and centuries. Mass-produced modern cigarettes multiply the global death toll by the use of features that mask the poisons with smoother, less visible and less smelly smoke, making them more attractive and easier to use.

The cigarette is actually an elaborately designed miniature chemical factory, manufactured according to hundreds of specifications, incorporating patent-protected features and ingredients, and delivering nicotine within a range of doses calculated to maximize its addiction potential. None of these "advances" have been demonstrated to reduce health risks, but they do reinforce the image of the modern cigarette as a "clean" product, minimally contaminated by toxins.

As far as the ingredients are concerned, the core health problem starts with the tobacco itself, which contains many cancer-causing chemicals. Although some cigarette companies post partial ingredient lists on their web sites, they do not list the many ingredients in the final cigarette that might deter many people from smoking them: residual pesticides, herbicides, fertilizer, heavy metals, arsenic, cyanide and other toxins may add to the overall risk. Tobacco processing aids, such as ammonia compounds, may or may not be listed. Substances used in the manufacture of reconstituted tobacco are not necessarily listed, including the true nature of the "tobacco extract" that is sprayed on to the reconstituted tobacco material. Manufacturers do not list the many substances in the paper, glue and filters or the decorative dyes and inks in the cigarette and filter paper.

Furthermore, the ingredients which are present in unburned cigarettes go on to yield more than 4 000 additional chemicals in the miniature blast furnace of the cigarette where temperatures may exceed 800 degrees Celsius. The burning cigarette works as a miniature chemical waste dump that results in the formation of still more toxins. These include the odourless, colourless deadly gas carbon monoxide (CO), increased levels of acetaldehyde, acrolein, formaldehyde and many other substances. In fact, seemingly harmless-sounding ingredients, such as chocolate, licorice and sugars, can contribute to increased carcinogenic and addictive effects. Substances such as menthol and sweeteners can also make it easier to inhale this toxic mixture deep into the lungs, by smoothing the smoke and deadening the senses. Finally, tobacco smoke forms an aerosol that carries thousands of substances into the deepest cavities of the lung, where the poisons are concentrated and quickly spread throughout the body, leading to a diverse range of diseases.

Although it is commonly assumed that the modern cigarette filter reduces disease risk by trapping toxins, in fact its main function appears to be to help to make the cigarette a more acceptable product to the consumer. Filters are advertised and portrayed as devices that reduce exposure to dangerous toxins, but the actual health benefits have not been clearly demonstrated. This does not mean that filters should not be used, but they need to be regulated as an integral component of the cigarette. Allusions to alleged health benefits should not be made or implied in consumer communications without scientific evidence accepted by the appropriate regulatory agencies.

have strict standards and for which these terms imply that the healthiest ingredient is provided, without substances suspected as being unhealthy or posing risks to humans. In the case of cigarettes, the most deadly ingredient is the tobacco itself and the by-products generated when tobacco – even theoretically "pure" tobacco – is burned. These cigarettes are sometimes sold in health-food stores.

In addition, a manufactured cigarette, whether



"natural" or conventional, has many ingredients that keep it from decomposing, keep it moist, give it additional flavours and keep it burning, not to mention the paper, the glue in the paper, and the filter materials. Furthermore, cigarettes claimed to be without additives and made of "organic" tobacco have never been demonstrated to be less dangerous or addictive than conventional cigarettes. In fact, tests on some brands indicate higher levels of tar and nicotine delivery than those produced by conventional cigarettes in smoking-machine studies. [xxiii] Yet such cigarettes are increasingly popular, appealing to health-conscious addicted consumers in much the same way as "light" cigarettes did a few decades ago. [xxiv, xxv]

Roll-your-own (RYO) cigarettes

Increasing numbers of people roll their own cigarettes, partly for cultural reasons and partly to save money owing to the rising costs (including taxes) of commercially manufactured cigarettes.

In some countries (e.g. the United States of America, Norway and New Zealand), loose-leaf roll-your-own cigarettes represent a significant and/or growing segment of the tobacco market. [xxvi, xxvii] In New Zealand, for example, roll-your-own cigarettes account for about 30% of the tobacco smoked, and over one third of all smokers there, including over 60% of Maori, reportedly regularly smoke roll-your-own cigarettes. [xxvi] Similarly, over half of all Norwegian smokers smoke roll-your-own cigarettes.

Materials sold for roll-your-own cigarettes are often advertised with claims that imply they are healthier, or at least less harmful, than the materials used in commercial cigarette production. This impression is also given by the fact that they may contain less tobacco than manufactured cigarettes. Basic data on emissions of these products are severely lacking, and reliable data on how people smoke these products are not openly available.

The fact is that there are no data to indicate that roll-your-own cigarettes are less toxic than commercially manufactured cigarettes. Nor are there data confirming that roll-your-own cigarettes cause higher rates of disease and premature mortality than manufactured cigarettes. However, recent unpublished data collected by the New Zealand Ministry of Health suggest that they may lead to higher levels of tar exposure on a cigarette-by-cigarette basis. [xxviii]

A 1998 study from the United Kingdom found that the mean tar yields from cigarettes produced by 57% of the smokers using roll-your-own cigarettes were above the current maximum of 15 mg per cigarette for manufactured cigarettes. [xxix]

Bidis and kreteks

In the South-East Asian and Middle Eastern regions, tobacco has been traditionally smoked in a variety of forms other than conventional cigarettes. These include the smaller and often handmade bidis and kreteks. They draw heavily on regional preferences for spices and herbs, using tobacco as a major, but not necessarily the main, ingredient. Regionally, they are often made by children and women, in small shops

and sold by street vendors individually and not in standardized packaging. They are promoted locally and internationally as less harmful than cigarettes, and these claims appear to be supporting their recent and apparently rapid global diffusion. [xxx, xxxi] As with the so-called "organic" cigarettes, bidis and kreteks are also often sold in health-food and herbal medicine stores worldwide.

The fact is that there are no data to indicate that roll-your-own cigarettes are less toxic than commercially manufactured cigarettes.

→ Bidis

Bidis are small hand-rolled cigarettes, made typically in India and other South-East Asian countries. Although bidis tend to be smaller than conventional cigarettes and exotically flavoured with ingredients promoted as natural and healthy, they can be every bit as deadly and addictive as conventional cigarettes. They typically contain a few hundred milligrams of tobacco wrapped in a tendu or temburni leaf *(Diospyros melanoxylon)*.

Although most commonly used in South-East Asian countries, they are increasingly exported as exotic and less harmful alternatives to conventional cigarettes. Exported bidis vary widely in their incorporation of spices and flavourings. For example, on the Internet it is possible to obtain flavours such as mango, cherry and chocolate. A youth survey in Massachusetts indicates their potential attractiveness outside the South-East Asia region. Among 642 youth surveyed, 40% had tried smoking bidis and 16% claimed to be current bidi smokers. [xxxii] A common misperception among these young people was that bidis were less hazardous than cigarettes. In fact, a study in India [viii] estimated that about a quarter of male bidi or cigarette smokers at 25-69 years of age are killed by their smoking and overall, smoking caused 552 000 deaths among men in India aged 25-69 years.



Recent studies indicate that delivery of nicotine and other substances by bidis are at least as great as levels delivered by ordinary cigarettes. [xxxii, xxxiii] Moreover, they tend to be smoked more intensively with more frequent puffs, thus resulting in higher actual nicotine intake and cardiovascular effect than cigarettes, [xxxiv] as well as 2-3 times greater tar inhalation. [xxxv] In cohort studies, bidi smoking has been shown to result in high excess mortality and high risk for diseases that are caused by cigarette smoking. [xxxvi] Bidi smoking has been associated with a threefold risk of oral cancer compared with people who have never smoked, [xxxv, xxxvii] and an increased risk for cancer of the lung, [xxxvii] stomach [xxxvii] and oesophagus. [xxxvii, xxxviii] Studies have also shown bidi smoking to be an important risk factor for cardiovascular disease. [viii, xxxix, xl] Risk of thromboangiitis obliterans is greater with bidi smoke compared with cigarette smoke. [xli]

→ Kreteks (clove cigarettes)

Kreteks are also known as clove cigarettes, as they typically contain 40% cloves and 60% tobacco. These cigarettes are the dominant form found in Indonesia, and are now sold in other countries and on the Internet (e.g. the "Kretek Pages" [xlii]): they are becoming more commonly available and used worldwide. Smoking-machine yields for these products are rarely provided, and their diversity in actual size and content suggests that nicotine and other toxins might vary more widely than for commercially manufactured or conventional cigarettes with similar characteristics. One study showed that volunteers who alternated smoking kreteks with conventional cigarettes obtained similar levels of nicotine and carbon monoxide, and

displayed similar cardiovascular effects. Although the kreteks were smaller than cigarettes, the volunteers puffed them more frequently and intensively than conventional cigarettes.[XXXIII] The toxicology of inhaled clove smoke has not been well studied. In addition to its potential direct toxicity, cloves provide an aroma that may mask the irritant qualities of tobacco smoke and thereby enable inhalation of large quantities of smoke. Similarly, cloves can also release eugenol, which can mitigate sensory effects and also facilitate deep inhalation of large quantities of smoke.

Although the epidemiology of disease associated with kretek smoking is not as well documented as for conventional cigarette smoking, the available evidence indicates health risks consistent with the fact that kreteks are filled primarily with tobacco and burned as conventional cigarettes; that is, disease could be very similar to that for conventional cigarettes. For example, a recent study from Indonesia found that lung cancer risk among kretek smokers was increased by the number of cigarettes per day, years of smoking and age.[XLIII] Similar findings have been repeatedly documented for conventional cigarette smoking.[XLIV] Kretek smoking is associated with an increased risk of acute lung injury, especially among susceptible individuals with asthma or respiratory infections.[XLV] Research in Indonesia has shown that regular kretek smokers have 13–20 times the risk for abnormal lung function compared with non-smokers.[XLVI]

While it is not clear that the high levels of cloves in kreteks increase their toxicity compared with conventional tobacco cigarettes, there is no scientific basis for concluding that kreteks are any less hazardous than cigarettes.

The potential of this market seems to attract the tobacco industry. In March 2005, Philip Morris International, the largest multinational tobacco company, and the international tobacco company arm of Altria Group Inc. announced the acquisition of Sampoerna, Indonesia's third largest tobacco company, with approximately 19% of the domestic market in kreteks (41 billion units). According to Philip Morris International's press releases, the company saw the acquisition as a "great opportunity to significantly expand our business in the world's fifth largest and growing cigarette market". What impact this transaction will have in expanding the kretek market worldwide is not known, but there is an obvious potential for synergy with Philip Morris International's marketing and distribution system to implement this expansion.[XLVII]

Cigars

Cigars are rolls of tobacco wrapped in tobacco leaf, although machine-manufactured cigars, as well as some hand-rolled cigars, are wrapped with paper made from tobacco that is called "reconstituted" or "sheet" tobacco. They generally contain several times as much tobacco as cigarettes, but their size is much more variable, ranging from the size of a cigarette to products that are several times the diameter and containing as much tobacco as a package of 20 cigarettes or more.[XLVIII, XLIX, L] Cigar smoking causes cancer of the lung, oesophagus, larynx and oral cavity.[XLVIII] Many people who have never used cigarettes but are primary cigar smokers inhale less smoke than cigarette smokers and have a lower risk of lung diseases (although the risk is elevated compared with non-cigar-smokers). Former cigarette smokers are more likely to inhale cigar smoke than those who have never smoked cigarettes.[XLVIII] Cigar smokers are also exposed to their own second-hand smoke, which is at quite a high level in cigars as compared with cigarettes.[XLVIII]

Cigar smoking causes cancer of the lung, oesophagus, larynx and oral cavity.

However, even cigar smokers who do not inhale still have a lung cancer risk 2-5 times higher than that of lifelong non-smokers. [IV:848]



Furthermore, lung cancer risk among cigar smokers is similar to that found in cigarette smokers if they regularly inhale the smoke as they puff. [XLVIII, LI, LII] The risk of head and neck cancer and many other diseases is the same as for cigarette smoking. For instance, the relative risk of death from cancer of the oral cavity and pharynx is 7.9 among all cigar smokers, relative to lifelong non-smokers. It increases with the number of cigars smoked per day to 15.9 in men who smoke five or more cigars per day. [IV:846]

Remarkably, some people who claim to have "quit smoking" actually switched from cigarettes to cigars and many believe that cigars are less harmful which, as we have seen, is not true, as they continue to inhale the smoke and expose themselves to very high levels of tobacco toxins.

Cigars do not even need to be lit to expose users to nicotine and other substances. Merely holding an unlit cigar in the mouth exposes the user to tobacco and its poisons. This is due to the alkaline nature of the tobacco, as compared with the acidic tobacco of cigarettes, which makes it possible for nicotine to be absorbed even from an unlit cigar. [L]

Pipes

Pipe smoking has received much less study than cigarette, or even cigar smoking: however, much of what is true of cigars appears also to be true of pipe smoking. For example, the smoke tends to be more alkaline than cigarette smoke and thus does not need to be directly inhaled to sustain high levels of nicotine addiction. Owing to the relatively large quantities of tobacco that are commonly put into the pipe, the pipe smoker and non-smokers may be exposed to smoke equivalent to that from several cigarettes. Pipe smokers carry a substantially higher risk of diseases including chronic obstructive pulmonary disease, oral head and neck cancer, laryngeal cancer, oesophageal cancer and lung cancer. [LIII]

The relative risk for lip cancer associated with pipe smoking is 1.5. A study in China found that the odds ratio for oral cancer among pipe smokers is 5.7 in men and 4.9 in women. In fact, these estimates are even greater than those associated with cigarette smoking. [IV:846-7]

The amount of pipe smoking, and possibly the level of inhalation, are determinants of the associated health risk.

Waterpipes (hookahs, bhangs, narghiles, shishas)

Waterpipes are popular throughout the South-East Asia and Middle East regions and have been used for many centuries under the illusion that they were a safe way to smoke tobacco. [LIV, LV] Regional names include "hookah", "bhang", "narghile", "shisha".

Waterpipes are made in a variety of designs in which the smoke of the substance is passed through water ("bubbled") before inhalation. The substance is placed in a small bowl with holes in the bottom, to which is attached a tubing that allows the smoke to be drawn to the bottom of a water container. The tobacco or other substance does not burn independently, but is heated and partially burned by the addition of a hot coal or burning ember to the bowl. One or more tubes are attached to the top of the water container to allow the user(s) to inhale and thereby draw smoke out of the bowl, through the water and into the lungs.

Waterpipes are commonly used by families, including children, and by women in regions in which conventional tobacco use occurs at very low rates among women.

The illusion that waterpipes are a safe form of tobacco smoking goes back at least to the 16th century, when physician Abul Fath suggested that the "smoke should be first passed through a small receptacle of water so that it would be rendered harmless". [LVI] This early "disguise" of tobacco's toxicity was presumably well-intentioned, but created the illusion of safety with no evidence – then or now – of actual reduction in disease risk.

Waterpipes are commonly used by families, including children, and by women in regions in which conventional tobacco use occurs at very low rates among women. [LIV] Furthermore, with the introduction of flavoured tobacco, waterpipe usage is increasing dramatically among young people in the Middle East and becoming quite popular globally on college campuses and elsewhere, owing in part to its mystique assumptions of relative safety and the socialization afforded by multiple-user pipes. [LV]

The absence in most countries and regions of the standardized warnings used for cigarettes may reinforce the assumption of relative safety. Special tobacco mixtures are sold, often highly flavoured with fruit, honey, molasses and herbs. Some of these are labelled with the technically accurate, but extremely misleading, statement "contains no tar". This is technically accurate, since the tar is produced during the combustion of the tobacco. However, because the waterpipe bowl is typically filled with several times as much tobacco as is contained in cigarettes, once lit, large amounts of tar could be produced when the tobacco is burned and pyrolized by the smouldering coals.



Lung toxins and carcinogens are probably reduced little, if at all, by the passage of the smoke through water. Absorption of the cardiovascular poison, carbon monoxide, can be very high, owing to the large volumes inhaled and to the fact that the heat source is typically coal or smouldering embers, which generate very high carbon monoxide levels. Whereas a cigarette is typically smoked

over approximately five minutes with 300-500 ml of smoke inhaled, waterpipe smoking sessions can easily last from 20-60 minutes with volumes of 10 litres or more inhaled.

It is plausible that some water-soluble substances are partially absorbed into the water and thus reduced in concentration, but whether the toxicity is reduced sufficiently to diminish adverse health effects is not known. It is plausible that the nicotine concentration of the smoke is reduced, and this is suggested by the extraordinarily high volumes of smoke inhaled as compared with cigarettes. The health effect of this may be negative, because enough nicotine can still be absorbed to cause addiction, while the lower concentration could result in a much higher intake of cancer-causing substances and other toxins.

Serious lung disease, cancer and other adverse health effects have been documented and linked to waterpipe smoking. However, information on patterns of use, content and health effects are more limited than for cigarettes. Nonetheless, waterpipe smoking is tobacco smoking, and a growing body of evidence confirms that the health effects are largely those expected from tobacco smoke exposure, including lung disease, cardiovascular disease and cancer. For example, recent work from Egypt reveals that, relative to non-smokers, waterpipe users displayed greater levels of pulmonary impairment (assessed via spirometry. [LVII, LVIII, LIX, LX]). These impairments are probably reflected in the greater incidence of chronic obstructive pulmonary disease observed in waterpipe users, relative to non-smokers. [LXI, LXII] For cardiovascular disease, one preliminary report on 292 waterpipe users and 233 non-smokers with coronary heart disease notes that 31% of cases had ever used waterpipes, compared with 19% of controls. [LXIII] The potential link between waterpipe use and cardiovascular disease deserves more investigation. Waterpipe use has been associated with bronchogenic carcinoma [LXIV] as well as oral [LXV] and bladder [LXVI, LXVII] cancers.

In addition to these tobacco-related diseases, sharing a waterpipe may increase the risk of transmission of tuberculosis [LXVIII] and viruses such as herpes or hepatitis. [LV] Other ailments have also been associated with waterpipe use, e.g. eczema of the hand, [LXIX] "dry socket" following tooth extraction (postextraction alveolitis) [LXX] and vertical periodontal bone loss. [LXXI]

Waterpipe smoking also involves risks to nearby non-smokers and the fetus of a pregnant woman. [LXXII] In a study with Lebanese children, for the 8.5% of children who reported being exposed at home to waterpipe smoke only, the odds ratio of having respiratory illness was 2.5 relative to a non-exposed group; this odds ratio was similar to that of children exposed to cigarette smoke only (i.e. 3.2). [LXXII] Exposure to carbon monoxide during pregnancy can harm the fetus, and is thought to underlie the low birth weight and low Apgar scores observed in neonates born to smoking mothers (fetal tobacco syndrome). [LXXIII] Clearly, fetal tobacco syndrome is a risk for babies born to women who use waterpipes during pregnancy: these women face an increased risk of having babies with low birth weight.

Oral non-combusted products are highly addictive and can cause cancer.

Non-combusted "oral" or "smokeless" tobacco products

In some regions of the world, the use of oral smokeless tobacco remains the dominant form of tobacco use and tobacco-caused disease. Oral non-combusted products are highly addictive and can cause cancer of the head, neck, throat and oesophagus, as well as many serious oral and dental conditions. In some countries, including India, it is also a major form of tobacco addiction. Its consumption is prominent in Scandinavia and the United States of America. [XXX, XXXI]

The popularity of oral smokeless tobacco is growing following increasing marketing efforts by the tobacco industry. In a recent study published in the Journal of School Health, the analysis of the reports on gender differences in tobacco use among young people in all regions of the world carried out by the United States Centers for Disease Control (CDC) and WHO revealed a surprisingly high use of other tobacco products compared with cigarette smoking, including smokeless tobacco. Furthermore, there was little difference between the use of cigarettes and other tobacco products. [LXXIV] Specific country studies, like one carried out in South Africa among black secondary school students in 2001, reported a prevalence of 8.4% of snuff users among girls, and 3.9% among boys. [LXXV]

Smokeless tobacco products contain addictive levels of nicotine, many carcinogens, heavy metals, and other toxins.

There are four major forms of oral smokeless tobacco:

- **chewing tobacco** is shredded like short cut grass, generally mildly acidic and intended to be chewed throughout the day as desired
- **snuff** is chopped into particles like large coffee grounds, moistened and used by holding between gum and cheek
- **Swedish snus** is a variant on snuff that is processed differently so that some variants must be kept refrigerated: it is typically more moist
- **gutkha and other oral smokeless tobacco** products are used in India and South-East Asia.

Smokeless tobacco products with variations such as controlled pH, flavouring and unit-dose pouches have been marketed for several decades, aiming particularly at young people in order to promote initiation of tobacco use. [XIX, LXXVI, LXXVII, LXXVIII] More recently, several companies have more aggressively marketed them to cigarette smokers as an alternative in situations in which smoking is not allowed, thus promoting the dual use of smokeless and smoked products. [LXXIX]

Mixing tobacco with various chewable mixtures of herbs, spices, areca nut, betel leaf and other substances was adopted in the South-East Asia region in the 16th and 17th centuries, and many variations exist. Dry powdered tobacco which was "snuffed" into the nose was particularly popular in England, northern Europe and parts of China in the 18th and 19th centuries.

Oral smokeless tobacco is the dominant form of tobacco use in India, where Indian products are overwhelmingly dominant. Most commonly, tobacco is added to paan, a betel quid mixture. [XXX] Areca nut, a common component of betel quid, contains the alkaloid drugs arecoline, muscarine and pilocarpine, which in small doses can produce calming and sometimes mildly stimulating effects. The mixtures are also considered to aid digestion and are commonly taken after meals. The incorporation of tobacco into paan increases its addiction potential and contributes to its adverse health effects because of the more persistent use caused by the addiction. [XXX]

The speed of nicotine absorption is pH-dependent. Often, buffering substances, such as ashes, historically, or calcium hydroxide (slaked lime) or sodium carbonate more recently, are added to raise the pH and enable more rapid absorption and hence a stronger nicotine effect or "kick".

Oral tobacco has been recognized since at least the 1980s to cause addiction, several forms of cancer and various dental diseases. [LXXVI] The adverse health effects of oral tobacco mixtures have been extensively review ed. [IV, XI, XXX, LXXVI, LXXX, LXXXI] All concur that smokeless tobacco products contain addictive levels of nicotine, many carcinogens, heavy metals, and other toxins, though recognizing that the levels of nicotine and

toxins vary widely across products. **In general, oral tobacco products are highly addictive, and typically contain several carcinogens that cause head, neck and throat cancers with high rates of premature mortality.** [IX, XI]

Tobacco use, including smokeless tobacco, and excessive alcohol consumption are prominent risk factors in oral cancer, being estimated to account for about 90% of oral cancers. [LXXXII]



Worldwide, there are approximately 274000 new cases [LXXXIII] of oral cancer every year. In South Asian and South-East Asian countries, oral cancer is a major public health problem. [LXXXIV] India has a high incidence of oral cancer, accounting for one third of the world burden. [LXXXV] It is one of the five leading causes of cancer at five leading sites in either sex. [LXXXVI] The vast majority of cancers in India are preceded by precancerous lesions and conditions caused by the use of tobacco in some form, and these are increasing among the younger population. [XXX, LXXXV,LXXXVII]

Oral tobacco mixtures also cause numerous other oral and dental diseases that can be debilitating, such as lesions in the oral cavity and gingival recession, which are typically reversible upon cessation of use [LXXX] but that can also, in some cases, be life-threatening. The risks of oral smokeless tobacco use and the relative risk compared with other tobacco products, have been the subject of debate owing, in part, to differences across populations and products that appear to differ in risk. For example, studies in India and the United States of America are unequivocal in their findings that oral smokeless tobacco use is a major public health problem. [XXX, LXXVI] On the other hand, in Sweden, where it is claimed by the manufacturers that the most widely used products are lower in carcinogens (owing to a processing technology patented by the Swedish Match tobacco company [LXXXVIII]), the oral cancer risk appears lower than that observed in countries where tobacco products are higher in carcinogens, such as India and the United States of America. [LXXX, LXXXIX] It is worth noting that, despite the differences in relative health risks compared with other tobacco products, a recent review of smokeless tobacco by the International Agency for Research on Cancer concluded that smokeless tobacco is carcinogenic, making no exception for Swedish snus. [IV]

Gutkha

A major category of commercially manufactured oral smokeless tobacco in India and the South-East Asia region is termed gutkha. Gutkha is a flavoured and sweetened dry mixture of areca nut, catechu, slaked lime with tobacco and other condiments. [XC] The commercial production and marketing of tobacco products have been considerably increased since the introduction of gutkha in India. The rate of growth of gutkha use has overtaken that of smoking forms of tobacco.

In India, gutkha has attracted the younger generation more than the older generation. The wider availability of gutkha has even attracted women and made it easier for them to chew tobacco without attracting social sanction. [XXX]

Gutkha and paan masala (areca nut products without tobacco) have been strongly implicated in the recent increase in the incidence of oral submucous fibrosis, especially in the very young, even after a short period of use. The condition has a high rate of malignant transformation, is extremely debilitating and has no known cure. [LXXXV, XC] This previously uncommon disease, found mainly among old persons in India, is emerging as a new epidemic mainly among young people (below 35 years). [LXXXV, XCI, XCII]

TOBACCO PRODUCTS of tomorrow and safety claims

As just seen, there are many different types of tobacco products around the world.

For some of them, like cigarettes, there is extensive evidence and scientific research which proves their deadly effects. For some of the products, research is still lacking. Regulation is inadequate for all products. In the meantime, the use of these products continues to expand, aided by an industry constantly hungry for profit. The tobacco industry continues to develop new products, spending huge budgets on research into new "reduced-harm" products, all of which are still untested in their long-term health effects; meanwhile, the industry gains addicts and market share.

Historically, several techniques have been introduced to make supposedly "safer" cigarettes. To date, none of these modifications has been proven to produce a safe product. Those products which have been in use long enough for their associated health effects to be studied have been shown to remain deadly. **Any claims of harm reduction without solid epidemiogical data should be viewed with suspicion.** Currently, we have identified only a small percentage of the toxins in tobacco smoke; these alone account for a tiny fraction of the known morbidity and mortality. Therefore, reductions in these alone may not reduce the risk substantially, especially since there are many more thousands of toxins which are still unknown.

Caution is needed with new products. All existing and new products put on to the market must be regulated. The following case-study on cigarettes marketed as "light", "low tar" and "mild" shows how deceptive the tobacco industry has been in the past: the lessons learned from this one case should be wisely used in order to avoid similar situations in the future.

The most tragic consequence of all is that millions of smokers died worldwide smoking these cigarettes before it was conclusively established, decades later, that there was no health benefit to be gained from smoking "light" and/or "mild" cigarettes compared with full-flavour cigarettes. [xcviii, xcix] This public health debacle was one of the driving forces behind the call for a global framework convention to support the regulation of tobacco products.

The WHO Framework Convention on Tobacco Control (WHO FCTC) requires countries to ban descriptors such as "light", "mild", etc. However, the tobacco industry will continue to fight effective measures. One example of this is the effort made by the tobacco industry in countries, like Brazil, that banned "light" and "mild" descriptors prior to the adoption of the WHO Framework Convention: companies attempted to reproduce these descriptors with colour codes supported by marketing campaigns, in an attempt to undermine the regulatory measures.

Perhaps the most important lesson learned from the "light and mild" cigarette debacle was that the well intentioned efforts by public health organizations and governments to address the needs of continuing smokers was used by the industry as a marketing tool to stimulate initiation in non-smokers and perpetuate tobacco use in existing smokers. It is clear nowadays that public health authorities cannot trust the tobacco industry's claims, nor can they endorse them. As with the "light and mild" campaigns, such a mistake can take decades to comprehend and more decades to undo. Perpetuating smoking is deadly because, even if the cigarettes really were lower-risk (which "light and mild" cigarettes were not), disease risks are very strongly determined by years of exposure. Delaying cessation through false reassurance is deadly.



The evolution of the cigarette, 1950-2000: A case-study in deception and disguise

As scientific evidence of the adverse effects of smoking cigarettes accumulated in the mid-20th century, the tobacco industry began making product changes to make the cigarettes appear safe and discourage people from quitting.

Filters Before 1950, filters were used only in speciality cigarettes. However, as scientific studies were published that showed that smoking caused 90% of lung cancer deaths in the United Kingdom and United States of America, the tobacco companies introduced filtered cigarettes into the broader market. Filters are advertised and portrayed as devices that reduce exposure to serious toxins. However, filtered cigarettes still kill half of those who smoke them and cause disease in many others. Meanwhile, smokers flocked to the filter cigarettes, and by 1975 they accounted for 87% of cigarettes sold. The tobacco industry knew the health claim was false:

> *"the smoker of a filter cigarette was getting as much ... nicotine and tar as he would have gotten from a regular cigarette. He had abandoned the regular cigarette, however, on the ground of reduced risk to health"* (Quote from Ernest Pepples, Vice-President of Brown & Williamson, February 1976). [XCIII]

"Light" and "ultralight" cigarettes The publication of the United Kingdom Royal College of Physicians report in 1962 [XCIV] and the United States Surgeon General's Report on the health effects of smoking in 1964 [XCV] had a profound impact in the United States of America and much of the developed world. Until then, the smoking rate had increased throughout the 20th century; after the Surgeon General's report, the cigarette smoking rate began a steady decline in the United States of America and other developed countries that continues to this day. However, the tobacco industry responded aggressively to produce a product which it could market as "safe": in this case, it developed a product and a "test" designed to deceive smokers and the public. "Light" cigarette brands were developed to create the illusion of reduced exposure and reduced harmfulness by delivering generally smoother, cooler smoke to reinforce advertising claims of reduced tar and other toxins. The marketing messages were reinforced by cigarette designs that yielded lower tar and nicotine ratings in the International Organization for Standardization (ISO) and United States Federal Trade Commission (FTC) testing systems, which had been endorsed by many national governments but had been developed with major input from the tobacco companies. Smokers responded to claims of a safer product, and switched to "light" cigarettes; while these cigarettes accounted for less than 4% of the market in 1970, that share increased to 45% in 1980 and 87% by 2000. [XCVI] In reality, "light" cigarettes could deliver several times more tar and nicotine than advertised: they undermined public health campaigns aimed at prevention and cessation, and they did not reduce the risk of disease relative to their so-called "full-flavour" counterparts.

One of the techniques used by the tobacco industry was to perforate the cigarette filter with ventilation holes that allowed large quantities of air to be mixed with the smoke and thus have the effect of diluting and cooling it. By perforating the filters, the levels of tar and nicotine yielded by the ISO and FTC testing were lower, and the numbers were advertised and printed on cigarette packs, luring many consumers to use the "light" products in the belief that the lower yields would reduce health risks. However, the ventilation holes could be easily covered by smokers who were unaware of their presence and/or their purpose and who sought the nicotine doses to which they were addicted.

Most deceptive of all was the discovery that the tobacco industry knew that there was no change in their deadly product, as internal documents prove. However, these companies not only failed to reveal the truth, but covered it up with powerful marketing tactics, spreading the misconception about "light and mild" cigarettes, misleading consumers and public opinion.

One previously secret memo by senior British American Tobacco employees urged that they modify their cigarettes, using designs that would not invite obvious criticism, in order to cheat the "league tables" (i.e. the tar and nicotine charts based on ISO testing methods).

> **Quote from a released industry memo:** *"You already know about the EEC mandate to reduce all deliveries to 15 mg. As we knew this was going to happen as early as 1988, we began to develop a strategy to react ... The 3 year effort resulted in a new method (now known as the 'new ISO') which reduces the smoke delivery results by about 1 mg at the 16 mg level. The Marlboro sold in the EEC was initially delivering about 15.5 mg prior to any analytical new technology change. When the new system was implemented, the deliveries were around 14.5 mg, but remember, no product change ever took place…"* [XCVII]

The 21st century challenge

Since the 1990s, tobacco companies have increased the development and marketing of products which they claim have the potential to reduce the risk of disease and death compared with conventional tobacco products. [XI, LXXVIII, LXXIX, C, CI] None of these claims have been evaluated by independent, scientifically based regulatory authorities, nor have the health effects been studied.

Any scientific evaluation must start with the recognition that these products are diverse in nature, intent and apparent claims. The table below shows the diversity of product offerings from large and small companies. The different products include modifications of more traditional products: all, however, contain tobacco and deliver nicotine and tobacco toxins. Little information is available about the contents or emissions of most of these products, and what is available comes primarily from the companies that make and sell the products.

Although new tobacco products have the theoretical potential to reduce the risk of disease in people who are unable to abstain from tobacco completely, the risks and overall public health harm could be increased, depending upon how the products are actually used.

The sheer diversity of product offerings makes it even more urgent to introduce regulation to protect health-conscious smokers from being misled by this new generation of unevaluated and unapproved products. Without strong regulatory oversight aimed at protecting health, people will continue to be hostages of the promises of tobacco product developers and marketers.

The extent of the tobacco industry's true knowledge of the addictiveness and disease-causing effects of its products may never be known. What has been revealed makes every effort to implement the WHO Framework Convention more urgent, if we are to rein in this industry which has consistently put its own profit over humanity and health.

Finally, it is clear that the tobacco industry continues to design and market products to perpetuate and expand its markets and that it will exploit opportunities to undermine prevention and cessation efforts.





Can you see a pattern here?

Any claims of harm reduction without solid epidemiological data should be viewed with suspicion.

Product	Addictive?	Contains carcinogens?	Contains other toxins?	Proven safe to use?	Contents regulated for consumer safety?
Cigarettes	Yes	Yes	Yes	No	No
Cig. with filters	Yes	Yes	Yes	No	No
"Light and mild" cig.	Yes	Yes	Yes	No	No
Roll-your-own	Yes	Yes	Yes	No	No
"Organic", "natural", "additive-free"	Yes	Yes	Yes	No	No
Bidis	Yes	Yes	Yes	No	No
Kreteks	Yes	Yes	Yes	No	No
Cigars	Yes	Yes	Yes	No	No
Pipes	Yes	Yes	Yes	No	No
Waterpipes	Yes	Yes	Yes	No	No
Oral or smokeless	Yes	Yes	Yes	No	No
Gutkha	Yes	Yes	Yes	No	No
Tobacco products of "tomorrow" *					
Eclipse	Yes	Yes	Yes	No	No
Accord	Yes	Yes	Yes	No	No
Omni	Yes	Yes	Yes	No	No
Ariva	Yes	Yes	Yes	No	No
Quest	Yes	Yes	Yes	No	No
Firebreak	Yes	Yes	Yes	No	No
Trionic Filter and Advanced Light Cigarette	Yes	Yes	Yes	No	No
Filligent cigarette filter and Fact cigarette	Yes	Yes	Yes	No	No
Click	Yes	Yes	Yes	No	No

**Since the 1990s, tobacco companies have been marketing products that they claimed would have potential to reduce the risk of disease compared with conventional tobacco products. Some of the products in the table above are known as "potential reduced exposure products" or (PREPS). Most of the names used above are trademarks registered by their respective manufacturers. This table is not intended to be comprehensive, and some products are sold by different companies under different brand names: it is not known whether these apparently similar products are actually identical. These products have each been described on the web sites of the product manufacturers or in news media discussions that can be accessed by Internet search. In the unregulated environment that presently exists, there is no certainty that the descriptions of the products and their associated claims are accurate or consistent with their physical makeup or health effects.*


Rösle
7
Lights
Leicht im Aroma
Con aroma leggero
Arôme léger

Regulating a deadly product

THE WHO FRAMEWORK CONVENTION on tobacco control

The challenges raised by the diversity of existing tobacco products, the efforts of the tobacco industry to conceal and disguise their addictive and toxic effects and the speed with which the tobacco industry is able to modify its products poses enormous challenges to global health.

The WHO Framework Convention is an important tool for addressing these challenges.

The WHO Framework Convention is a global public health treaty developed as a global response to the globalization of the tobacco epidemic. It is aimed at reducing the burden of disease and death caused by tobacco. Its entry into force on 27 February 2005 reaffirmed the right of all people to the highest possible standard of health.

The WHO Framework Convention is the first treaty ever initiated by the World Health Organization. It is unique among treaties addressing addictive substances because it addresses tobacco control from both the supply-side and the demand-side perspective; it includes provisions for consideration of and cooperation on questions of criminal and civil liability; and it embraces scientific evidence-based approaches, that is, measures that have proved effective in reducing tobacco consumption.

The final text of the WHO Framework Convention was adopted unanimously by the World Health Assembly in May 2003, following nearly four years of negotiations. The WHO Framework Convention became one of the most quickly embraced treaties in United Nations history; within two and a half years, it boasted more than 100 Parties.



The first session of the Conference of the Parties was held in Geneva from 6 to 17 February 2006, and mobilized 113 full Parties, as well as representatives from other countries and civil society, in support of the common goal of curbing the tobacco epidemic.

As mentioned in the introduction, Article 1(f) of the WHO Framework Convention defines tobacco products as all products made entirely or partly from tobacco leaf. Further, a preambular paragraph in the Convention recognizes that "... scientific evidence has unequivocally established that tobacco consumption and exposure to tobacco smoke cause death, disease and disability ...". Consequently, the WHO Framework Convention does not make a distinction between cigarettes and other tobacco products.

Following the preamble and articles addressing the primacy of health, terminology and the obligations of the Contracting Parties, the WHO Framework Convention addresses demand reduction in articles 6-14. It also addresses supply reduction in articles 15-17. Three articles lay the groundwork for the regulation of tobacco product contents, emissions, design and labelling. They are as follows:

- → **Article 9:** Regulation of the contents and emissions of tobacco products
- → **Article 10:** Regulation of tobacco product disclosures
- → **Article 11:** Packaging and labelling of tobacco products.

These articles will help reduce tobacco demand by supporting efforts to prevent tobacco use. The detailed description in each of the articles [CII] implies the need for an objective science-based approach to implementation through tobacco product research and testing designed to inform public health policy-makers.

Research and scientific evidence informed the negotiation of provisions contained in Articles 9, 10 and 11 of the WHO Framework Convention. This research contributed to the consensus position among parties that regulation would serve public health goals by providing meaningful oversight over the manufacturing, packaging and labelling and distribution of tobacco products. The same scientific basis guiding the implementation of Articles 9 and 10 also underscores the principles guiding Article 11. For this reason, and in order to achieve the synergistic effect of these provisions, all three articles should be treated conceptually as one set of regulations.

Achievement of product regulation goals will be facilitated through Article 20 (Research, surveillance and exchange of information) which promotes the establishment of research, testing and information exchange considered fundamental to the implementation of Articles 9-11. Article 22 (Cooperation in the scientific, technical, and legal fields and provision of related expertise) lays an additional foundation by recognizing the vital importance of international collaboration, mutual support and facilitation of relevant technical capacity.



Article 1(f) of the WHO FCTC states that

"…"tobacco products" means products entirely or partly made of the leaf tobacco as raw material which are manufactured to be used for smoking, sucking, chewing or snuffing". Further, a preambular paragraph in the Treaty reconizes that "*…scientific evidence has unequivocally established that tobacco consumption and exposure to tobacco smoke cause* ***death, disease and disability,*** *and that there is a time lag between the exposure to smoking and the other uses of tobacco products and the onset of tobacco-related diseases*". Consequently, the WHO Framework Convention does not make a distinction between cigarettes and other tobacco products.

THE FUTURE HORIZON for tobacco testing

To enable progress towards fulfilment of the obligations of articles 9, 10 and 11, and consistent with Articles 20 and 22, the WHO Study Group on Tobacco Regulation (TobReg) [1] issued a recommendation, in 2004, outlining some guiding principles and technical considerations for establishing global tobacco product testing and research capacity.

The recommendations of TobReg emphasize the importance of expanding current research and testing capacity – currently concentrated in a few nations – across the world so that all Parties to the WHO Framework Convention, and other countries, can have access to resources and data to enable requirements in relation to regulation of contents, disclosure and labelling of tobacco products to be fulfilled.



The report led to the establishment of the WHO Tobacco Laboratory Network (TobLabNet) in 2005 to facilitate transnational and regional testing and research into tobacco products of all forms. TobLabNet was developed with support and co-sponsorship by the United States National Cancer Institute, the United States Centers for Disease Control and Prevention (CDC), the Dutch National Institute for Public Health and the Environment (RIVM) and the European Network of Government Laboratories on Tobacco and Tobacco Products (ENGL).

The Conference of the Parties to the WHO Framework Convention, during its first session in February 2006, decided on a template for the elaboration of guidelines on product regulation. The guidelines will be based on the work already done by TobReg and the WHO Tobacco Free Initiative (TFI), confirming the significance of the groundwork done by TobReg.

1. In November 2003, the WHO Director-General formalized the Scientific Advisory Committee on Tobacco Product Regulation (SACTob) by changing its status to that of a study group. Following the status change, the SACTob became the «WHO Study Group on Tobacco Product Regulation» (TobReg). It is composed of national and international scientific experts on product regulation, tobacco dependence treatment and laboratory analysis of tobacco ingredients and emissions. Its work is based on cutting-edge research on tobacco product issues. It conducts research in order to fill regulatory gaps in tobacco control. As a WHO Study Group, the TobReg has a mechanism to report to the WHO's Executive Board in order to draw attention of Member States to WHO's efforts in tobacco product regulation, which is a novel and complex area of tobacco control.


05
LIGHT

Conclusions

The marketing and distribution of tobacco products has created an epidemic that will kill approximately 5 million people in 2006, with the annual death toll nearly doubling by 2020.

Regulation of tobacco products is vital in order to control the escalating global tobacco epidemic.

Although cigarettes and cigarette substitutes are the major focus of many national tobacco control efforts, this report highlights the fact that **all tobacco products are harmful and addictive and all can cause disease and death.** The use of deception and disguise by the makers and marketers of tobacco products seems to know no bounds, and the number of new products in the pipeline is escalating. Products include cigarette filters with claims ranging from improved health to whiter teeth, smokeless tobacco products marketed with claims of purity and negligible harm and new high-technology products that bear little resemblance to conventional tobacco products. Ancient products traditionally used in selected regions only, such as waterpipes, kreteks and bidis, are sweeping the world under the allure of their exotic appeal and illusions of relative safety.

The tobacco industry has proven itself untrustworthy when it comes to safety claims, product improvements or ethical behaviour in its marketing tactics. Public health agents and governments have a responsibility to stop erroneous and misleading claims about the safety of new products. These mistakes take years to undo, and cost millions of lives, as the example of "mild and light" has shown.

For new products and for those under development, additional research is needed to understand more precisely whether their risks are the same as the products they would replace. Such research will

take years, or even decades. Until such research is completed, the most prudent course is to assume that their health risks are extraordinarily high compared with any ordinary consumer product and to make every effort to prevent their use along with all other tobacco products.

It is vital that all these products be regulated because they are all harmful and addictive.

Tobacco products are not regulated to the standards expected of most other consumer goods and consumer products. Therefore, it is vital to develop comprehensive regulation of all tobacco product ingredients and emissions, harm, manufacture, communications and marketing, as endorsed by the WHO Framework Convention. And in line with the intent and the text of the Convention, this call for regulation of all tobacco products will help to empower people and governments to make decisions based on truth about the products and not premised on disguise and deception. It is vital that all these products be regulated, however, because they are all harmful and addictive. The need for regulation is of increasing urgency as the harm to individuals, families, populations and nations is projected to continue increasing at a devastating rate if it continues on its current course.

The WHO Framework Convention is an important catalyst in such regulation. It emphasizes the right of Parties to protect the health of their people, as well as the individual rights of people to health and wellness by protecting themselves from tobacco.

The WHO Framework Convention observes that widest possible international cooperation is necessary to control tobacco-caused illnesses.

Tobacco companies must be held accountable for their actions and marketing practices. Stringent and more comprehensive enforceable regulation is a critical course of action to ensure that this is done. In combination with other comprehensive tobacco control measures, all included in the provisions of the WHO Framework Convention, we now have the tools to bring the tobacco epidemic and its devastating health and economic consequences under control – a truly global public health achievement.


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