

Evidence to the House of Commons Health Select Committee Inquiry into the Conduct of the Tobacco Industry

**Action on Smoking and Health (ASH)
Royal College of Nursing**

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The following evidence is submitted by ASH and the Royal College of Nursing. ASH is a charity founded by the Royal College of Physicians in 1971. The aims of the organisation are to preserve the health of the community; to advance the education of the public concerning smoking; and to carry out or support research and communication for the benefit of the health of the community.

The Royal College of Nursing is the voice of the nursing profession and is a leading player in the development of nursing practice and standards of care. It is a provider of higher education and promotes research, quality and practice development through the RCN Institute.

Summary

By 1950 it was clear that smoking was a likely cause of serious illness and premature death in the 1950s the link was established beyond reasonable doubt. Since 1950 the range of diseases and magnitude of risks have become better understood, so that it is now possible to attribute over 50 medical conditions and 20 diseases causing premature death to smoking. As knowledge has progressed, estimates of the mortality and morbidity attributable to smoking have increased.

Current research suggests that 120,000 people per year die prematurely as a result of smoking, and half of all long term smokers will die prematurely half of these in middle age (69 or less), losing on average around 22 years of life. Since 1950 some six million smokers have died prematurely in the UK and world-wide around 60 million. *The important question raised in the Committee's terms of reference is the extent to which the tobacco industry and its regulators acted to minimise this terrible toll.* While we accept that, to a certain extent, smoking is a choice and that many adults now know there are risks, this does not absolve manufacturers or regulators of all responsibility especially when the 'choice' to smoke is usually made as a child and rapidly consolidated by physiological addiction to nicotine, a powerful 'hard' drug.

Recent litigation in the United States has revealed around 35 million pages of internal tobacco industry documents which the companies involved never intended to be seen by the public. These are steadily bringing into focus a picture of the conduct of the tobacco industry as it confronted the unassailable scientific consensus which condemned its product as a killer. The picture is of a great disparity between what was known and discussed privately, and what was said publicly. Our argument is structured as follows, and backed by extracts from tobacco industry documents:

- When the dangers became clear, the tobacco companies engaged in denials and obfuscation which continue today. At the same time as actively sowing seeds of doubt and confusion among the public, the tobacco industry argues a libertarian position that smokers have the necessary understanding of the risks to decide whether to smoke. This long-running denial has been a key factor in the failure to reduce harm caused by smoking, for example, by designing and marketing genuinely less dangerous cigarettes.
- The tobacco industry denied and continues to deny that the essence of smoking is addiction to nicotine. Addiction compromises the smoker's free choice, and ensures the smoker is continually chasing a nicotine 'fix'. Instead of accepting that smoking is essentially an addictive drug habit, the tobacco industry has raised a series of distracting and disreputable arguments, such as comparing the addictive nature of tobacco to that of chocolate, shopping or the internet. The current scientific view is that tobacco-delivered nicotine is very addictive, with dependence-forming characteristics comparable to heroin and cocaine. The industry's internal documents show that, contrary to the public stance

which persists even today, nicotine has been understood for over thirty years to be the addictive agent in tobacco and the reason why people continue to smoke.

- The tobacco industry's principal response to the health problem has been the reduction of 'tar levels' through the development of a 'low tar', 'light', 'mild', 'ultra' cigarettes. This has been one of the most serious consumer deceptions of all time. Because of nicotine addiction people smoke low tar cigarettes more intensely to obtain the nicotine they need. These products appear to be less harmful but *in reality* offer virtually no reduction in harm. Documents show the tobacco companies have been aware of this for thirty years yet apparent health benefits have been an important component of marketing strategy. Regulators in North America are only now getting to grips with the problem. The UK and rest of Europe lag further behind. The consequences of marketing what appear to be less dangerous cigarettes are very serious smokers concerned about health have been reassured and switched to these products rather than quit. The appearance of action has masked a disguised 'business-as-usual' approach to the health consequences of smoking.
- At the same time as offering "fools' gold" in the form of low-tar cigarettes, tobacco companies have failed to produce genuinely less-deadly products. Tobacco industry lawyers stifled attempts to make products that could reduce the hazard of smoking. Numerous documents and patents, dating back to the 1960s, suggest that opportunities do exist for a genuinely less-deadly cigarette. The response of the tobacco companies acting on the advice of lawyers was to close down labs researching safer cigarettes.
- Regulation of the tobacco industry makers of the most dangerous legal consumer product in the world has been woefully inadequate. Though excellent epidemiological data detailing the health implications of smoking has been building up for decades, governments and their scientific advisers have been way behind in understanding tobacco product design, its effects on health and appropriate regulatory responses. The series of voluntary agreements between governments and the industry in the UK have been ineffective and at times amounted to 'regulatory capture' by the tobacco companies. Only in the last 18 months has the Government adopted a more sceptical and challenging approach to the tobacco industry.
- A new regulatory direction is needed and the forthcoming EU directive, currently under discussion, could be a good opportunity to implement it. Particular attention must be paid to regulating tobacco products to selectively remove or reduce specific toxins such as carbon monoxide, which is damaging to the heart and circulation, or nitrosamines, which are potent recognised carcinogens.
- Nicotine addiction can also be satisfied by significantly less harmful delivery devices. Paradoxically however, tough pharmaceutical regulation has ensured that the tobacco industry has an exclusive monopoly in the supply of nicotine as a lifestyle drug. Nicotine patches and gum are strictly regulated and deliver nicotine at much lower rates than tobacco smoke too low to be 'psychoactive'. Tobacco products fall outside this regulatory framework and have very weak regulation, yet are potently addictive and very harmful. Any attempt to produce products that rival the tobacco companies by satisfying smokers' desire for nicotine in strong doses using cleaner means of delivery would probably be thwarted by regulators.

Documentary evidence

The majority of the documents cited in this evidence were released through litigation in Minnesota. The designation 'MTN' refers to Minnesota Trial Number and means that the document can be retrieved from the appropriate Internet site. The documents drawn on in this submission are from a variety of companies and may give the impression that some companies have been more involved in particular areas of research or in specific cases of disinformation. Many are recent and relate to UK companies, especially British American Tobacco. Imperial Tobacco and Gallaher have not been subject to litigation that has led to public disclosure of documents, so information concerning these companies is less readily available. However, the companies agreed common responses to health issues through trade associations, research conferences, and PR companies. All tobacco manufacturing companies were regularly sharing information and even established a "gentleman's agreement" to limit controversial health research within the industry when it became politic to do so, as the 1970 Philip Morris document quoted below proves: ***"We have reason to believe that in spite of the gentlemen (sic) agreement from the tobacco industry in previous years, that at least some of the major companies have been increasing biological studies within their own facilities"***.^{1[1]}

Smoking-related health risks

It has long been accepted by the medical establishment that smoking is very bad for health and, in many cases, fatal. Yet the full range of medical conditions associated with tobacco and smoking is still surprising around 50 specific illnesses and 20 different ways of killing.^{2[2]} It has been estimated that almost 300,000 patients are admitted to NHS hospitals annually with smoking related illnesses,^{3[3]} 120,000 of whom die as a result of their conditions.^{4[4]} World-wide around three million people die prematurely each year as a result of tobacco smoking and, based on current trends, this figure will rise to around ten million by 2010.^{5[5]}

Despite overwhelming scientific proof, tobacco industry representatives continue to publicly deny the link between tobacco and disease. Regardless of the public denials it is clear from private industry documents that they have been well aware of the links since the early 1950s. Paul Kotin a pathologist at the Tobacco Industry Research Committee, established in 1957 what most industry scientists had suspected, that ***"the sum total of scientific evidence establishes beyond reasonable doubt that cigarette smoke is a causal factor in the rapidly increasing incidence of human epidermoid cancer of the lung... [this is] a view with which we concur."***^{6[6]}

When questioned in public, industry spokesmen have claimed that as smoking is neither a 'necessary' nor a 'sufficient' factor in the development of cancers that is, some non-smokers develop cancers and some heavy smokers do not as a result, they do not consider there to be conclusive proof of a link. In the past these denials have verged on the absurd: ***"Smoking has not been proven to be a cause of disease... smoking is merely a 'risk marker' for diseases like lung cancer, in the same way that driving licences are 'risk markers' for car***

^{1[1]} Wakeham H., Vice President Philip Morris. 1970. [MTN 2544]

^{2[2]} ASH Factsheet 2. March 1999.

^{3[3]} Godfrey C., et al The Smoking Epidemic a prescription for change. HEA. 1993.

^{4[4]} Smoking Kills. Department of Health White Paper. 1998.

^{5[5]} Peto R., Lopez A., Boreham J. et al Mortality from Smoking in Developed Countries 1950-2000. ICRF/WHO. OUP 1994

^{6[6]} Pringle P., Dirty Business Big Tobacco at the Bar of Justice. Aurum Press 1998;131

accidents." Dr Sharon Boyse BAT Press Conference. Sri Lanka. 1993.^{7[7]} Or, *"None of the things which have been found in tobacco smoke are at concentrations which can be considered harmful. Anything can be considered harmful. Apple sauce is harmful if you get too much of it."* Philip Morris spokesman, 1976.^{8[8]}

Another approach was the 'we are not doctors' stance, in which companies claimed they were unqualified to hold a view on the hazards of their product. Speaking on the recent BBC *Tobacco Wars* documentary^{9[9]} Andrew Reid, the former Chairman of Imperial Tobacco restated the company policy: *"The company policy was that we, as tobacco manufacturers, were not qualified to make any medical judgements. Now that was the company's stance and I believe it was absolutely right and has stood the test of time. So, that has always been my line. I'm not a doctor. I'm not qualified, and I wouldn't presume to make any judgements."*

This blatant attempt to shrug off responsibility is, in our view, a powerful statement of the negligence with which the tobacco industry has responded to the scientific knowledge of the harmful effects of smoking and the addictive nature of nicotine. Allegations of negligence underpinned the legal action taken by 54 lung cancer victims against Imperial Tobacco and Gallaher which ended on a procedural point in March 1999.^{10[10]}

Within the tobacco industry, this stance was already discredited. In 1972, BAT scientist S.J Green stated: *"I believe it will not be possible indefinitely to maintain the rather hollow 'we are not doctors' stance and that, in due course, we shall have to come up in public with a more positive approach towards cigarette safety."*^{11[11]}

More recently, as blanket denials were undermined by mounting scientific evidence, the industry has established a new stance on the issue of smoking and disease. A BAT confidential internal memo from 1980 shows the motivation for the change in attitude: *"The company's position on causation... which we have maintained for some twenty years in order to defend our industry, is in danger of becoming the very factor which inhibits our long term viability... On balance, it is the opinion of this department that... we should now move to position B, namely that we acknowledge 'the probability that smoking is harmful to a small percentage of heavy smokers'. By giving a little we may gain a lot. By giving nothing we stand to lose everything."*^{12[12]}

Tobacco manufacturers have also been presented with overwhelming evidence from their own researchers for decades. J.L. Charles at Philip Morris wrote the following in a 1982 memo: *"Lets face facts: Cigarette smoke is biologically active. Nicotine is a potent pharmacological agent. Every toxicologist, physiologist, medical doctor and most chemists know that... Cigarette smoke condensate applied to the backs of mice causes tumours."*^{13[13]} The research manager at Gallaher had come to similar conclusions in 1970 when he wrote: *"The results of the research would appear to us to remove the controversy regarding the causation of the majority of human lung cancer... to sum up we are of the opinion that the*

^{7[7]} Simpson D., Propaganda Hit Squad at Large, Tobacco Control 1994;3:76-77.

^{8[8]} Quoted on Death in the West. Thames TV 1976

^{9[9]} Andrew Reid, former Chairman, Imperial Tobacco (UK), interviewed in BBC *Tobacco Wars*, 27 July 1999

^{10[10]} Hodgson and Others vs. Imperial Tobacco Ltd. Gallaher Ltd. Hergall (1981) Ltd. Plaintiffs affidavit 18 November 1998.

^{11[11]} S.J Green, The Association of Smoking and Disease. 26 July 1972.

^{12[12]} Berly A., BAT internal memo 1980

^{13[13]} Charles J.L., Philip Morris. 1982 [MTN10,523]

Auerbach work proves beyond reasonable doubt the causation of lung cancer by smoke."^{14[14]}

However, in 1998 Gallaher publicly rejected the private conclusion of its own scientist in this memo. In a press release, the company stated: "*Gallaher considered this published research. The internal memo, now made public, was an initial reaction. Gallaher subsequently discounted the views expressed in that memo.*"^{15[15]} No reasons were given as to why Gallaher rejected such a conclusive assessment that was in line with the vast majority of respectable opinion. The denials and fudging continue to the present. A public response from tobacco industry spokesman John Carlisle on BBC radio^{16[16]} on the leaked document detailing the Auerbach research mentioned above, shows just how unwilling the industry still are to accept the medical reality of health risks or their own role in obscuring the truth from their customers:

Interviewer: "*Mr Carlisle, this is absolutely conclusive proof that, apart from what the research shows, Gallahers has concealed conclusive knowledge about the harmful effects of tobacco for... thirty years?*"

John Carlisle Tobacco Manufacturers Association: "*There is no such thing as conclusive evidence when you are talking about such a vast subject.*"

In fact, it seems that the real attitude of many in the tobacco industry has been nearer to that expressed in a strictly confidential internal 1979 BAT memo which reads: "*We [must] become more 'politically sensitive' in the areas of smoking and health e.g. reporting of 'nasties' and biological studies generally... (remember what pays our salaries)*"^{17[17]}

^{14[14]} Research Manger. Memo to Managing Director, Gallagher 1970. [MTN 21,905]

^{15[15]} Gallaher Group plc, Press release, *Gallaher the facts*. 16 March 1998.

^{16[16]} BBC Radio 4 *Today* 16 March 1998. 7.18am

^{17[17]} BAT 1979. [MTN 11,202]

Nicotine Addiction

The effect of nicotine on the brain's dopamine systems has been likened to that of heroin and cocaine. The Government's Scientific Committee on Tobacco and Health (SCOTH) recognised in March 1988 that *"underlying smoking behaviour and its remarkable intractability to change, is addiction to the drug nicotine."*^{18[18]}

Private industry documents dating from the 1960s show that tobacco companies are well aware of the role that nicotine plays in developing and sustaining a tobacco smoking habit, and have committed serious resources to researching ways to enhance its addictive nature. A BAT internal memo from 1962 acknowledges the role of nicotine, *"... smoking is a habit of addiction ... nicotine is a very fine drug"*^{19[19]} In 1967 BAT scientists stated (internally): *"It may be useful, therefore, to look at the tobacco industry as if for a large part its business is the administration of nicotine (in the clinical sense). [...] Smoking is an addictive habit attributable to nicotine and the form of nicotine affects the rate of absorption by the smoker."*^{20[20]} The importance of addiction to the tobacco business is that people are prepared to pay high prices for the products. BAT marketing staff acknowledge this: *"We also think that consideration should be given to the hypothesis that high profits... associated with the tobacco industry are directly related to the fact that the customer is dependent on the product."*^{21[21]}

To recognise publicly the evidence for pharmacological nicotine addiction would however, undermine the assertion that smokers choose to do so as a matter of 'free will'. Without the 'free will' argument, a key part of the industry's defences in product liability litigation would be destroyed. As the US Tobacco Institute put it in 1980: *"the entire matter of addiction is the most potent weapon a prosecuting attorney can have in a lung cancer/cigarette case. We can't defend smoking as 'free choice' if the person was 'addicted'."*^{22[22]}

The consistent denials of the pharmacologically addictive nature of nicotine and tobacco follow from this defensive position, most vividly illustrated at a 1994 US Congressional hearings, when seven Chief Executive Officers of American tobacco companies testified under oath that in their view nicotine was not addictive. Martin Broughton, Chief Executive Officer of BAT stated only three years ago *"We have not concealed, we do not conceal and we will never conceal... we have no internal research which proves that smoking... is addictive."*^{23[23]} In a similar vein a 1996 Philip Morris Position Statement asserts, *"Those who term smoking an addiction do so for ideological - not scientific - reasons... "*

When questioned on the continuing presence of nicotine in their products, most manufacturers maintain that nicotine is merely an important element of a cigarette for flavour. Brennen Dawson of the Tobacco Institute assured the public in 1994 that *"Nicotine is essential. It has taste. It has what is called a 'mouth feel'."*^{24[24]} There are, however, important internal documents throwing another light on the subject; a 1978 B&W confidential internal memo stated; *"Very few consumers are aware of the effects of nicotine, i.e. its addictive nature and that [it] is a poison."*^{25[25]} Further honesty came to light once Ross Johnson, CEO of RJ Reynolds, left his employers: when asked if nicotine is addictive in an October 1994

^{18[18]} SCOTH Report. Department of Health 1998

^{19[19]} Cited in A. McCormick, Smoking and Health: Policy on Research, BAT internal memo. 1962. [B&W papers 1102.01]

^{20[20]} BAT R&D conference, Montreal, Proceedings 1967. [MTN 11,332]

^{21[21]} BAT 1979 [MTN 11,283]

^{22[22]} Knopick, Tobacco Institute, 9 September 1980. [MTN 14,303]

^{23[23]} Stevenson T., *BAT Denies Smoking Claims. The Independent.* 31/10/96; 20.

^{24[24]} Dawson B., *Face the Nation.* 27/3/94.

^{25[25]} Steele HD., *Future consumer reaction to Nicotine.* Memo to McCue MJ., 24/8/78

interview in the *Wall Street Journal* he was quoted as saying: **"Of course its addictive... that's why you smoke the stuff."**

Despite all the evidence tobacco industry representatives have consistently denied the existence of physiological or pharmacological nicotine addiction in public, claiming that smoking is, at very worst, only 'habit forming'. It is however widely accepted by epidemiologists that tobacco smoking is both physiologically addictive as well as 'behaviourally' habit forming. Dr. C. Procter of BAT discussed the nature of nicotine addiction in *The Observer* in 1998 saying, **"Addiction is an emotive subject and it is certainly possible to define the term broadly enough to include smoking... Whereas earlier definitions were based on objective criteria, the current definition is more colloquial, reflected in terms like 'chocoholic' 'and addicted to love'... This colloquial definition is all inclusive and certainly applies to the use of many common substances..."**^{26[26]}

To back up their claims that a nicotine habit is not too powerful to break^{27[27]} their definition of a 'real' addiction - tobacco manufacturers cite the rising number of ex-smokers. A 1995 Philip Morris training manual sets out the company's attitude to addiction, saying, **"Smokers do not have a problem stopping smoking if they have a personal desire to do so. 98% of people quit without assistance."** Dr Procter holds the same line in a 1998 *Observer* article, saying **"The experiences of millions of smokers who have stopped without any medical intervention flatly contradict the claim that any smoker is incapable of quitting."**^{28[28]} a distracting and invented claim that has never actually been made.

However, it could be argued that one of the strongest indicators of the addictive nature of nicotine is the huge discrepancy between the stated desire to quit and quitting success rates. Independent surveys have consistently shown that almost three-quarters of all smokers want to end their habit at any one time^{29[29]} - yet less than 20% of those who begin a course of cessation treatments manage to abstain for a whole year.^{30[30]} Without treatment the numbers are even lower - evidence suggest that only around 3% of those who attempt to quit without help become permanent ex-smokers. The powerful nature of nicotine addiction is also evident in the reluctance of some smokers to quit even after undergoing surgery for smoking induced illness - according to independent research around 40% of laryngectomy patients try smoking soon after surgery, and over half of all lung cancer patients also resume their habit.^{31[31]}

Once again internal industry documents show that tobacco companies are well aware of the real effects of nicotine addiction, despite their unanimous decision to deny it. A 1984 Philip Morris internal report entitled *The Cigarette Consumer* makes it clear that, **"People continue to smoke because they find it too uncomfortable to quit. Over 85% of smokers agree strongly/v. strongly to "I wish I had never begun smoking" Over 80% claim to have attempted to quit."**^{32[32]}

One of the most important implications of the addictiveness of nicotine is the implications for regulation and development of new products - especially low-tar cigarettes. Addiction means that smoking is an attempt to seek nicotine and that smokers will adjust their smoking to obtain the nicotine they need. Any strategy that fails to recognise this fundamental factor will

^{26[26]} Proctor,C. Smoking gun? *The Observer*, 1/3/98

^{27[27]} BAT Annual Review 1998

^{28[28]} Proctor C. Smoking gun? *The Observer*, 1/3/98

^{29[29]} *Living in Britain: Results of the 1996 General Household Survey*. ONS 1997.

^{30[30]} Stolerman IP and Jarvis MJ *The Scientific Case that Nicotine is Addictive*. *Psychopharmacology* 1995; 117:2-10.

^{31[31]} Stolerman IP and Jarvis MJ *The Scientific Case that Nicotine is Addictive*. *Psychopharmacology* 1995; 117:2-10.

^{32[32]} Philip Morris, 1984 [MTN 11,899]

inevitably fail. Unfortunately, the failure to acknowledge this underpins the failure of regulation to date.

The consumer scandal of low-tar cigarettes

In the face of a mounting scientific consensus on health risks, tobacco manufacturers realised that they needed to take action, at the very least on a PR level, to allay smokers' fears in order to maintain markets. As part of this strategy manufacturers concentrated on establishing new technology which gave low readings on official tar and nicotine tests while exposing smokers to unchanged levels of hazardous chemicals - new Low-Tar, Light and Ultra-lite brands. Despite the 'light' campaigns and re-branding, industry representatives were careful to avoid any concrete statements about the relative health benefits of their new products. An internal BAT document from June 1970 reinforces this line, stating: *"The industry should however never put itself in the position that by offering to publish tar/nicotine figures it is implying that some cigarettes are 'safer'. If there is any suggestion of this, it must come from the government."*^{33[33]}

The new 'low-tar' cigarettes were not made from 'low-tar' tobacco - there is no such thing - instead they were conceived using filter technology to dilute the smoke with air, thereby reducing the apparent levels of tar and nicotine when measured on a machine.

The reason that tobacco manufacturers were so keen not to imply concrete health benefits despite concerted efforts to persuade governments around the world that 'low-yield' brands were a vital part of a safe-smoking future was that they already knew in the 1970s that the new cigarettes were unlikely to reduce the harm caused by smoking. Almost thirty years ago documents reveal that tobacco industry researchers were aware that smokers were responding to changes in tar and nicotine yield with subconscious 'compensatory' smoking habits allowing them to get as much nicotine as their addiction required. Compensatory habits included blocking ventilation holes with lips, fingers or saliva and taking more and deeper puffs. This resulted in an almost unchanged nicotine and, by implication tar, intake. Currently the air drawn through ventilation holes in the filters of 'low-yield' brands can account for up to 70% of the total intake. This means that a testing machine not designed to recreate smoking compensation, gets only 30% of the potential nicotine and tar intake of a smoker with compensatory habits.

The main problem with so called 'low-yield' cigarettes is the quality of the measurements gathered using US Federal Trade Commission (FTC) machines. Although the results of these machines have been accepted as a global standard, it has recently been recognised by the FTC itself that readings from the machine significantly under-estimate the nicotine and tar intake of a 'real' smoker. A November 1998 FTC press release states: *"the existing system does not accurately reflect actual human smoking behaviour... The National Cancer Institute and the US Food and Drug Administration stated... that new data suggests that the limited health benefits, previously believed to be associated with lower tar and nicotine cigarettes, may not exist."*^{34[34]} This conclusion came as no surprise to the tobacco manufacturers as B&W documents from 1976 illustrate: *"In most cases, however, the smoker of a filter cigarette was getting as much, or more, nicotine and tar as he would have gotten from a regular cigarette. He had abandoned the regular cigarette however on health grounds."*^{35[35]}

Although the changes made were relatively simple and aimed at low tar readings on testing machines, tobacco manufacturers made much of their new 'healthier' products once again without honest admissions or concrete health claims. A 1977 BAT Board Paper plays it safe,

^{33[33]} Hargrove GC., *Smoking and health* 1970. R.J.Reynolds

^{34[34]} Jodie Bernstein, Director, Bureau of Consumer Protection. FTC press release. 24.11.98 (enclosed in Annex 1)

^{35[35]} Pepples E., Vice President B&W private presentation to General Council 1976. [MTN 2205.01]

stating ***"We have progressively modified our products to reduce those smoking constituents which are alleged to be harmful."***^{36[36]}

In 1998 ASH and *The Observer* commissioned tests designed to measure the impact of ventilation blocking, one of the most commonly used compensation methods, using the Laboratory of the Government Chemist's official testing machine. Research has found that around 60% of 'low-yield' brand smokers show evidence of 'significant' blocking and around 20% show signs of 'extreme' blocking.^{37[37]} In the light of this, a test was devised to see how much tar and nicotine was available to smokers employing these compensatory methods. The results of the test were illuminating: Silk Cut Ultra displayed tar and nicotine yield values of 1 mg and 0.1 mg respectively, yet with full blocking compensation the values were 12.3 and 1.12 mg. Similarly Marlboro Lights, displaying yields of 6 and 0.5 mg, actually delivered 10.5 and 0.77 mg.^{38[38]} The implications of the test results are clear; depending on the level of nicotine required by the smoker, the toxic yield of a cigarette can be significantly higher than the figures quoted by the FTC. This is exactly what tobacco manufacturers had intended as demonstrated once again by a private internal BAT document from 1984 which states; ***"Irrespective of the ethics involved we should develop alternative designs (that do not invite obvious criticism) which will allow the smoker to obtain significant enhanced deliveries should he wish."***^{39[39]}

An internal Philip Morris document on the FTC regime makes it clear that compensation was also well recognised by their scientists while industry representatives were lobbying governments on the benefits of 'low-yield' brands. The research document summary states, ***"Some unexpected observations on tar and Nicotine and Smoker Behaviour... Generally, people smoke in such a way that they get more than predicted by machines. This is especially true for dilution cigarettes... The FTC standardised test should be retained. It gives low ratings."***^{40[40]}

Despite their knowledge of smoker 'compensation', manufacturers continued to aggressively market their new products with an implied 'healthier' image as well as misleading potential regulators. A 1976 B&W advert in *Newsweek* for their new *Vantage* mild brand asked the smoker, ***"How many times have you decided to give up smoking?... if you've given it up more times than you can remember, the chances are you enjoy it too much to want to give it up at all. If you're like a lot of smokers these days, the chances are it probably isn't smoking that you want to give up. It's some of that 'tar' and nicotine you've been hearing about."*** In fact there is now evidence to suggest that the 'low-tar' market has actually increased smoking rates in two ways. Health risks associated with low-tar products are perceived to be less significant removing one of the main pressures on smokers to quit and the additive technology used to manufacture low-tar brands has actually enhanced the addictive nature of nicotine.

^{36[36]} BAT 1977

^{37[37]} Kozlowski LT., et al *Prevalence of the Misuse of Ultra-Low-Tar Cigarettes by Blocking Filter Vents*. American Journal of Public Health. June 1988;78:6

^{38[38]} K. Darrell, Laboratory of the Government Chemist report EH40/M007/98, February 1998.

^{39[39]} BAT Co. 1984 [MTN 11,275]

^{40[40]} Quoted in *Wall Street Journal* 29th December 1995

Engineering Safer Cigarettes

The annual smoking death-toll could be significantly reduced if cigarette manufacturers used their vast and detailed knowledge of the design and processes involved in the manufacture of their product, to reduce its toxicity and carcinogenicity. Tobacco industry documents and patents suggest that technologies exist to reduce toxic components of smoke do exist and if the companies were required to meet 'emission standards' it would be possible. A survey of patents by ASH and Imperial Cancer Research Fund featured a selection of patents for reducing the hazardous chemicals in cigarette smoke.^{41[41]} The fifty-seven patents featured, a small subset of all relevant tobacco patents, broke down as follows:

Patent Claim and compound	Number of Patents	Publication year range
Remove/ reduce tar	11	1974 to 1998
Remove/ reduce carbon monoxide (CO)	14	1972 to 1997
Remove/ reduce polycyclic aromatic hydrocarbons i.e. BaP	8	1971 to 1988
Remove/ reduce hydrogen cyanide (HCN)	11	1971 to 1988
Remove/ reduce nitrosamines	6	1979 to 1998
Remove/reduce nitrogen dioxide/ nitrate/nitrite/ nitric oxide	14	1980 to 1998
Remove potassium nitrate	2	1978 and 1986
Remove radioactive compounds i.e. polonium	2	1971 and 1980
Remove metals carbonyls	1	1972
Reduce aldehyde	1	1988
Other misc. compounds	7	1976 to 1998

The patents include:

- The use of catalysts to remove carbon monoxide, a toxic gas implicated in heart disease.
- The use of active chemical filters, including charcoal, to remove toxic gases such as hydrogen cyanide, oxides of nitrogen and hydrogen sulphide.
- The use of microwaves in the curing process to remove nitrosamines. These are implicated in cancer.

Once again confidential documents make it clear just how advanced technology with real health benefits was, even as early as the 1960s. Helmut Wakeham, Director of Research at Philip Morris made a confidential internal presentation to the Philip Morris board in 1969, stating *"I will now show you one product prototype which is perfectly practical in terms of present technology but still fairly far out in terms of the present market. The front plug is chemically treated paper specific for phenol and hydrogen cyanide removal. The space contains three solids identified by colour. The black one is a general purpose activated charcoal for gas phase [carbon monoxide] removal; the blue one is specific for hydrogen cyanide; and the white one for certain water soluble gases."*^{42[42]}

The question is: why were most if not all of these inventions never deployed in cigarettes commercially available? We suggest four reasons:

1. Concerns about legal action if they admitted the products on sale were 'unsafe' by developing a safer product.

^{41[41]} ASH, Imperial Cancer Research Fund, *The safer Cigarette: what the tobacco industry could do... and why it hasn't done it.* 1999.

^{42[42]} Wakeham H. Report to the Board of Philip Morris. [MTN 10,299]

2. 2. Marketing problems. Cigarette marketing works by associations with glamour, sport, humour etc. never literal description of the product for obvious reasons. In our view the companies would not wish to have to market 'low heart disease cigarettes'. It is also likely that authorities would be wary of health claims fearing that these might provide unjustified reassurance.
3. 3. Economic concerns. These innovations would increase production cost, require plant investment, and may reduce flexibility in production, such as leaf blending. Unless the costs could be justified by recovered through selling at a premium or improved market share. This is only possible through improved marketing or through a regulatory requirement placed on all manufacturers.
4. 4. Regulatory 'intrusion'. By showing that certain chemicals could be controlled individually the companies would be inviting regulators to place obligations on the companies and force these changes.

A confidential memo written by Patrick Sheehy, Chief Executive of BAT, in 1986 supports this interpretation and illustrates the conflict of interest between developing safer products for the future and protecting profits based on products of the past. In response to questions from a research manager wishing to pursue research into 'safer' cigarettes, Sheehy responded:

"I cannot support your contention that we should give a higher priority to projects aimed at developing a 'safe' cigarette (as perceived by those who claim our current product is 'unsafe'), either by eliminating, or at least reducing to an acceptable level, all components claimed by our critics to be carcinogenic..."

"In attempting to develop a 'safe' cigarette you are, by implication, in danger of being interpreted as accepting that the current product is 'unsafe' and this is not a position I think we should take"^{43[43]}

The tobacco industry argues that these techniques either do not work or are too expensive.^{44[44]} We disagree with this most of the technologies are based in sound science and even very large increases in manufacturing cost make little difference to the final price of the product. Doubling the manufacturing cost would add less than ten percent to the final product price in the UK.

Although tobacco manufacturers claimed much for their new technology - ***"If our product is harmful... we will stop making it. We now know enough that we can take anything out of our product, but we don't know what ingredients to take out,"***^{45[45]} - there is no evidence that practical action was ever taken outside of research laboratories to remove any of the highly toxic chemicals including recognised carcinogens present in the tobacco sold to smokers.

A further reason why such technologies have not been used, might be that the companies have never been *required* to do it by the authorities. Regulators have concentrated on the flawed and approach of encouraging low tar cigarettes instead of addressing cigarette smoke as a more complex mix of chemicals each susceptible to treatment with different technologies.

^{43[43]} Patrick Sheehy Chief Executive BAT, Confidential internal memo 1986 [MTN11296]

^{44[44]} John Carlisle, Tobacco Manufacturers' Association spokesman, intervention from the floor, ASH press conference, 3 March 1999.

^{45[45]} James Bowling Vice President Philip Morris 1972 [MTN C1-94-8565]

30 years of ineffective regulation

The tobacco industry has a unique place in government regulation its product is almost universally recognised as hazardous to health and in 120,000 cases per year it is fatal. Yet it is widely sold and sparsely regulated. At the same time, the possibility of products other than tobacco meeting the demand for nicotine is severely constrained by restrictive pharmaceutical regulation. Through perverse regulation the most dangerous source of nicotine, tobacco, has been granted an unregulated monopoly in the supply of nicotine.

Tobacco product regulation

Tobacco product regulation, such as it has been, has been centred on the approach of reducing tar as measured by machines. This misguided fixation has had no positive consequences and three negative consequences:

1. The development and branding of 'low-tar', light, mild cigarettes which offer the appearance but not the reality of reduced tar exposure. This has lent official endorsement to a confidence trick played on consumers by the tobacco industry. The outcome has been to divert health concern about smoking into new brands offering false reassurance, rather than increasing the motivation to quit.
2. Regulators were persuaded that to make viable 'low-tar' cigarettes that consumers would choose to smoke, it would be necessary to make extensive use of additives in tobacco products. This led to an extraordinarily permissive voluntary agreement governing tobacco additives, which has led to over 600 additives to be authorised for use in tobacco products. Internal documents suggest that, far from flavour enhancement, some of these additives may have been used to make nicotine more addictive.^{46[46]} The tobacco industry still refuses to disclose which additives are in use and in which brands, and it is clear that the Government does not know and has only recently tried to establish the purpose of some of the additives in use.
3. It has distracted from meaningful regulation that would have made a difference. While concentrating on 'tar', regulators have missed opportunities to force reductions in particular toxins, control the use of additives or subject cigarette engineering techniques to regulatory control.

One explanation for these problems is that successive governments lacked the science and understanding of the processes involved to undertake effective regulation. The Government did act on the scientific advice that it was given, but this was deficient notably in taking an uncritical view of low-tar cigarettes and the tar reduction strategy. A simple and naïve explanation therefore would be that the tobacco companies did what successive governments asked of them; that government policy was based on poor scientific advice; and that scientific committees and medical bodies offered their advice based on the best understanding of science at the time.

A more challenging view is that the tobacco companies possessed the best scientific insights into their products but allowed independent scientists to draw false conclusions. This led to policy advice that favoured the disguised 'business as usual' approach of tar reduction and low-tar cigarettes. Had the policy threatened the interests of the tobacco companies, they would have advanced scientific arguments to defend their interests. As one adviser, Dr Stan Venitt, of the Government's Tobacco Advisory Group said recently at an ASH conference,

^{46[46]} See ASH, Imperial Cancer Research Fund, Massachusetts Department of Public Health, Cigarette Engineering and Nicotine Addiction, 14 July 1999.

"The information the industry have provided us with has been pitiful - I have no doubt that on many occasions we were being led up the garden path."^{47[47]}

Early in the smoking and health debate, the tobacco companies aroused distrust in Government. Research in the Public Record Office^{48[48]} shows that Lord Hailsham, who headed a Cabinet committee charged with defining the Government's response to the first Royal College of Physicians report in 1961, was appalled by the response of the tobacco companies. A report of a briefing meeting for Lord Hailsham by Miss K E Brookes, the Assistant Secretary states: "[Lord Hailsham] *is extremely critical of the tobacco companies for their replies to the R.C.P report; he says that these are deliberately dishonest and wicked from start to finish and that their authors are selling their fellow men for thirty pieces of silver.*" (22 March 1962)

Others also came to the conclusion that they were not getting honest co-operation from the industry, Judge Sarokin who presided over the Haines vs Liggett case in the US in 1992 summed up by saying, ***"All too often in the choice between the physical health of consumers and the financial well-being of business, concealment is chosen over disclosure, sales over safety and money over morality ... despite some rising contenders, the tobacco industry may be the king of concealment and dis-information."***

Regulation of nicotine

The question of regulation in the 'nicotine market' as opposed to the 'tobacco market' raises some thorny strategic questions and reveals some glaring inconsistencies.

Although the tobacco market is barely regulated at all, other means of nicotine delivery are regulated as pharmaceuticals by the Medicines Control Agency or by similar agencies in other countries, for example the Food and Drug Administration in the United States. Extremely demanding controls cover safety, health claims, branding and product innovation. In the US it took three years for permission to be granted for the addition of mint flavour to nicotine gum^{49[49]}. In effect, the only non-tobacco nicotine products allowed into the market are strictly for aiding smoking cessation. These deliver nicotine slowly and aim to take the edge off withdrawal cravings, but unlike tobacco-delivered nicotine they do not act as a psychoactive drug. However, 12 million people in the UK (1.2 billion world-wide) take nicotine as a drug, many unwillingly. For them the market provides two choices continue to smoke tobacco; or give up possibly using nicotine products to help. Many smokers try and fail to quit smoking and continue to smoke knowing that they are harmed. For them, the choice of an alternative to tobacco which delivers nicotine with sufficient 'impact' could significantly reduce the health risks of nicotine use compared to continued smoking. Such products would definitely be prevented under current regulatory arrangements, yet their absence from the market could be a cause of considerable additional illness and death.

Such a path is fraught with dangers for example that new 'less deadly' products will be seen as 'safe' and this will encourage more consumption or appeal to children.

^{47[47]} S. Venitt. Comment at ASH Tobacco Additives seminar, 14 July 1999. (quote confirmed with Dr. Venitt, 27 September 1999)

^{48[48]} Pollock, D. Denial & Delay. The political history of smoking and health, 1951-1964, ASH, 1999.

^{49[49]} Henningfield J., Personal Communication, 9 September 1999.

Recommendations

1. 1. The Committee should require absolutely candid and detailed statements regarding tobacco and health and nicotine addiction from the Chief Executives of UK tobacco companies. This in itself would significantly serve the aim of reducing tobacco-related harm by establishing common assumptions and knowledge on which policies and future regulation may be based. In the US, litigation has acted as a 'truth machine'. In the UK the health community looks to Parliament, and the present inquiry in particular to perform the same function.
2. 2. As a matter of urgency the Government should disown the 'tar reduction' strategy as inconsistent with the current understanding of nicotine addiction. The Federal Trade Commission in the United States has now done this, and the UK should take the lead in Europe in developing the critique of this regulatory approach if and when a new tobacco regulation directive is negotiated.
3. 3. The Government should require tobacco manufacturers to remove any branding that constitutes an explicit or (more usually) implied health claim unless evidence can be provided to support it. This should mean that the Government should not permit branding such as 'low-tar', 'light', 'mild' or related images and colours unless companies can show consumers do not regard this as a health claim or that there is a health benefit proportional to the weight of the claim. This approach is absolutely standard practice in pharmaceutical regulation.
4. 4. The Government should increase its scientific and regulatory capacity in order to undertake competent regulation of tobacco too often in the past, it has been out manoeuvred by the tobacco industry. Consideration should be given to an appropriate regulatory body either the Medicines Control Agency or a new regulatory body for all nicotine products. This might be established at the European level This would shadow developments in the US, where the Food and Drug Administration has asserted jurisdiction over tobacco.
5. 5. The Government should work through the European Union to secure more meaningful regulation of tobacco products. In such regulation, nicotine addiction would be understood to be the driving dynamic of smoking behaviour and tough and tightening emission standards would force technologies to reduce the toxic exposure of tobacco users onto the market.
6. 6. The long-term response should be to regulate the nicotine market as a whole with the aim of reducing the harm caused by smoking tobacco, allowing less hazardous forms of tobacco use than smoking, facilitating the introduction of competitors to smoking and tobacco in the nicotine market, and encouraging the development and uptake of smoking cessation products.
7. 7. An important part of any tobacco control strategy should be to maximise the opportunities for people to stop smoking. Resources should be made available to train health professionals and others in smoking cessation techniques and to increase accessibility of the most effective forms of treatment.