

# PostScript

## LETTERS

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### Listening between the lines: what BAT really thinks of its consumers in the developing world

In an audio recording of the "Structured Creativity Conference" held in Hampshire, UK in June 1984, British American Tobacco (BAT) adds context to the written report of marketing and product applications.<sup>1</sup> Employees are taped brainstorming creative ways to push their product in light of future marketing constraints and social pressure towards a smoke-free society. Project proposals included the following: low sidestream smoke cigarettes,<sup>2</sup> "front end lift" cigarette design to give the smoker more "impact" on the first puffs,<sup>3</sup> pleasant smelling sidestream smoke,<sup>4</sup> and nicotine inhalers—"Forget about smoking... GO FOR A QUICKKEEK. No tar with nic, is what makes the body kick."<sup>5</sup>

One of the most interesting proposals came from Ian Ross from a Finland subsidiary, who later became the head of international brand business at BATCO in the early 1990s. Ross's proposal, the "LDC (less developed countries) Project",<sup>6</sup> called for individually heat sealed cigarettes designed to lengthen the shelf life of cigarettes in arid climates found in Africa and the Middle East. This rather ingenious idea for stick sales would be sold to tobacco vendors in reels with visible brand imaging, containing 200 cigarettes that could be pulled off along perforations one at a time.

What the 80 or so page written report did not include, the audiocassette captured with clarity. The taped conversations of the BAT conference participants offered rarely obtained loose discourse regarding product design proposals and a derogatory discussion of the people intended for end product use.

Ross relays that he wants to make "stick purchases seem like a consumer benefit" by supplying "factory sealed and factory freshness" every time. As for marketing the heat sealed stick product, Ross states: "... [T]he brand image must be enhanced by the new packaging... if you just say, this is a cheap cigarette for you dirt poor little black farmers... they're not going to go for it."

Ross also discusses the target group—"urban", "male", between 18-30, and "aspiring lower middle" socioeconomic class—and says: "I have not gone into psychographics... I have no idea what the psychographics of the average black farmer is."

Another conference participant ruminates, "We could sell them to the Palestinians if we

made the plastic hard enough that you could rip the end off and put your shells in them..."

This discourse, not found on the written presentation, between the BAT marketing and product development personnel was obviously not meant for public consumption, nor is it new information that the tobacco industry targets the developing world. A patent search in the UK resulted in no individually heat sealed cigarette applications.

What is of great interest to those of us who spend our time searching through page after page of internal tobacco industry documents is the significant difference between what is written and what is said. David Schechter, the former BAT lawyer, recently explained the "mental copy rule" to the US Department of Justice, which assumed that anything one would write could end up being used publicly or legally against the company.<sup>7</sup> This leads to the obvious question: Are we overlooking important research tools in the form of non-written material?

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### Eclipse: does it live up to its health claims?

We read the recent article by Slade *et al*<sup>1</sup> with great interest and agree that reasonable regulation focused on the development and appropriate evaluation of potential reduced risk cigarettes is warranted. Furthermore, we agree with Slade *et al* that the results of our evaluation indicate that Eclipse may offer potential benefits to smokers. However, we disagree with several of the other conclusions drawn by the authors.

The article challenges the merits of Eclipse and questions the fundamental differences between Eclipse and other cigarettes. It is not possible within the context of this letter either to fully describe the scientific data that has been developed to characterise Eclipse or to address many of the criticisms of Eclipse raised in Slade's article. However, we briefly address pertinent issues below and encourage interested parties to independently evaluate all of the available information.

Slade *et al* have inaccurately represented the claims that RJ Reynolds Tobacco Company (RJRT) has made regarding Eclipse. No cigarette is without risk, including Eclipse. Our advertising for Eclipse states: "The best choice for smokers who worry about their health is to quit. But Eclipse is the next best choice for those who have decided to continue smoking." Our advertising also makes it clear that RJRT does not claim that Eclipse presents less risk of cardiovascular disease or complications with pregnancy.

In the absence of any existing regulatory standard, RJRT assessed Eclipse's risk reduction potential using a four step scientific methodology that included chemical testing and analysis, biological and toxicological testing, human testing, and independent scientific verification. In general, the evaluation strategy utilised was consistent with strategies outlined by the Institute of Medicine Committee that addressed this subject.<sup>2</sup> RJRT has conducted an extensive comparative evaluation of Eclipse and has presented this research at scientific meetings in the both the USA and internationally. The results of these and other studies may be reviewed on the Eclipse website ([www.eclipsescience.com](http://www.eclipsescience.com)).

In addition, much of this research has been published in the peer reviewed literature. The weight of the evidence from this research clearly shows that, compared to other cigarettes, Eclipse may present smokers with less risk of cancer, chronic bronchitis, and possibly emphysema. An independent panel of scientific experts reviewed the science and reached conclusions consistent with RJRT's claims.<sup>3</sup>

RJRT's comparative studies were conducted using Kentucky reference cigarettes (K1R5F and K1R4F) and leading low "tar" and ultra low "tar" commercial brand styles. Combined, the cigarettes selected for comparison to Eclipse are representative of the vast majority of cigarettes sold in the US market.<sup>4,5</sup> By contrast the entire market segment of the very low yielding ultra low "tar" cigarettes used by Slade *et al* as a comparison collectively represent less than 1% of the market. Furthermore, one of the two cigarettes selected as a comparison (Now Box) does not have a measurable US Federal Trade Commission (FTC) "tar" yield.

Comparisons of Eclipse mainstream smoke constituent yields to the yields of very low yielding ultra low "tar" cigarettes (Now Box and Carlton Soft Pack) obtained by machine smoking do not change the fact that an extensive battery of scientific tests indicates that Eclipse cigarettes may present smokers with less risk of certain smoking related diseases than other cigarettes. RJRT scientists have recently demonstrated Eclipse is significantly less mutagenic on a per mg "tar" basis than either Carlton Soft Pack or Now Box over a wide range of machine smoking conditions. On a per cigarette basis, Eclipse was less mutagenic than Carlton Soft Pack under all machine smoking conditions tested and was less mutagenic than Now Box when evaluated using the machine smoking conditions mandated by both the Massachusetts Department of Health and the Canadian federal government. In addition, Eclipse was significantly less cytotoxic on both a per mg "tar" basis and a per cigarette basis under the same range of machine smoking conditions.<sup>7</sup>

Astonishingly, Slade *et al* appear to argue that these very low yielding ultra low "tar" cigarettes are the most appropriate cigarettes for the purpose of assessing the risk reduction potential of Eclipse. This argument is presumably based on the assumption that ultra low "tar" cigarettes present less risk to the smoker than the full flavour low "tar" cigarettes used in RJRT's studies. This is contrary to the published position of the National Cancer Institute, which recently concluded that all existing tobacco burning cigarettes present equivalent risk.<sup>8</sup>

As noted by Slade *et al*,<sup>1</sup> smokers typically take larger and more frequent puffs than those specified by the US Federal Trade Commission puffing regimen and they typically smoke Eclipse differently than their usual brand. Therefore, it is essential that a weight-of-the-evidence approach, including studies in smokers, be used to characterise potential differences between Eclipse and other cigarettes.<sup>3</sup> Urine mutagenicity studies conducted in smokers demonstrate that smokers of ultra low "tar", full flavour low "tar", and full flavour "tar" cigarettes all experience substantial, statistically significant reductions ( $p < 0.05$ ) in mutagen exposure when they switch to Eclipse.<sup>9</sup> Furthermore, additional studies conducted in smokers have demonstrated reductions in bronchial inflammation and inflammation of the lower lung when smokers switched to Eclipse.<sup>10,11</sup> These findings are consistent with reductions in smoker exposure to smoke constituents under actual smoking conditions and support RJRT's conclusion that Eclipse may reduce the risks of certain smoking related diseases relative to other cigarettes currently on the market.

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## Author's reply

Swauger argues that based on the weight of the evidence, Eclipse, compared to other cigarettes, may present smokers with less risk of cancer and other smoking related diseases. He bases this conclusion on "weighing" the scientific research RJ Reynolds Tobacco (RJRT) has conducted on Eclipse. Our study drew the opposite conclusion.<sup>1</sup> Our analysis of the Eclipse research suggests that Eclipse is as toxic or more toxic than a number of conventional cigarette brands.

RJRT claims "there is no cigarette like Eclipse" based on a comparison of the smoke chemistry of Eclipse with a typical ultralight, Merit. We tested Eclipse against two other ultralight cigarettes, Now and Carlton, and found the smoke concentrations of four major carcinogens to be similar or lower. RJRT's claim that "there is no cigarette like Eclipse" may be misleading to consumers.

We tried to "weigh" the evidence but found that to be difficult since the control cigarettes kept changing between the studies. The smoke chemistry research used a commercial "ultralight" as a reference, the *in vitro* research a Kentucky "light" cigarette and the human research the "usual" brand of heavy (40 + cigarettes, per day) smokers. The "usual" brands were not identified. We also examined changes in smoke chemistry between the 1996 version of Eclipse and the 2000 version and found that concentration of four major carcinogens doubled in the 2000

version. The concentration of NNK was 1233% greater than RJRT's early 1988 version of Eclipse called Premier.

In 2001, the Institute of Medicine's report "Clear the Air" determined that there was insufficient evidence to conclude that any currently marketed product, including Eclipse, actually met the promise to reduce exposure to toxins or reduce harm.

Since the introduction of Eclipse, a number of other products have been brought into the market place that make explicit or implied claims of being "safer" than conventional cigarettes. These include Omni, Advance, Accord, and a soon to be released Philip Morris product called SCOR. Our article highlights the need for regulation of these products and associated claims by independent agencies such as the US Food and Drug Administration (FDA). RJRT could help "Clear the Air" by supporting pending FDA legislation. Food and drug manufacturers are not allowed to introduce new products into the market and make claims based solely on their own internal research, and nor should tobacco manufacturers. If RJRT truly believes that Eclipse may reduce risks of lung cancer and other diseases, the company should request the FDA to evaluate its scientific research and claims before marketing it at the retail level nationally.

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## Seasonality in cigarette sales: patterns and implications for tobacco control

Cigarette smoking is the leading public health problem in the USA, contributing to over 400 000 deaths a year.<sup>1</sup> Given its importance, the tobacco control community should be aware of all significant patterns in the consumption of cigarettes that may be relevant to efforts aimed at tobacco control. Unfortunately, little attention has been paid to the seasonal nature of smoking. Findings on seasonal patterns may have major implications for the timing of interventions designed to manage the tobacco problem, both in the USA and in other countries.

In this letter, monthly data for cigarette sales at the state level for the USA are analysed to test for the presence of seasonality and to characterise the phenomenon. The results reveal a seasonal pattern that is significant both in the statistical sense and in magnitude. This includes a significant drop in the winter months of January and February, and an increase during the summer months of June, July, and August.\* Because seasonality in sales does not reflect seasonality in production,† it must be inferred that the seasonality is driven by wholesale and retail phenomena, including consumption.

The data used in this study are monthly figures for sales of cigarettes by wholesalers to retailers aggregated at the state level between January 1983 and July 2000. Until December 1997, the Tobacco Institute was responsible for their collection.‡ For the period following this, the firm Orzechowski and Walker produced the data.‡

**Table 1** Summary statistics on seasonality of cigarette sales

State	Spectral analysis (p value for Bartlett's test)	Stable seasonality test (p value)	Seasonal factor range	Months with extreme seasonal effects (month name and number of times the month is a high-2 or low-2 seasonal factor)			
				Most frequent high month	2nd most frequent high month	Most frequent low month	2nd most frequent low month
Alabama	0.0133	<0.0001	23.97	Oct(13)	Jun(10)	Feb(17)	Jan(5)
Alaska	<0.0001	<0.0001	56.45	Jul(11)	Aug(9)	Feb(13)	Nov(9)
Arizona	0.0016	<0.0001	22.69	Jan(10)	Oct(7)	Feb/Mar(17)	*
Arkansas	0.0175	<0.0001	27.73	Jun(17)	May(7)	Feb(17)	Jan(8)
California	<0.0001	<0.0001	21.67	Jun(14)	May(7)	Jan/Feb(17)	*
Colorado	<0.0001	<0.0001	28.50	Sep(12)	Jul/Aug(8)	Feb(17)	Mar(13)
Connecticut	<0.0001	<0.0001	24.17	Jun(11)	Aug(7)	Feb(17)	Jan(14)
Delaware	<0.0001	<0.0001	61.65	Jun(11)	Aug(8)	Feb(16)	Jul(9)
DC	<0.0001	<0.0001	50.25	Jun(10)	Oct(9)	Jan/Feb(10)	Nov(7)
Florida	<0.0001	<0.0001	13.90	Apr(11)	Mar/May/Nov(6)	Feb(17)	Sep(11)
Georgia	<0.0001	<0.0001	178.69†	Jun(17)	Jan/Oct/Dec(5)	Jul(17)	Aug(12)
Hawaii	<0.0001	0.0111	36.99	Oct(12)	Jun(8)	Jul(13)	Feb/Nov(6)
Idaho	0.0002	<0.0001	36.28	Jun(14)	Aug(12)	Feb(17)	Jan(10)
Illinois	<0.0001	<0.0001	26.16	Jun/Aug(15)	May/Nov(2)	Jan/Feb(17)	*
Indiana	<0.0001	<0.0001	27.35	Jun(17)	Aug(8)	Feb(17)	Jan(14)
Iowa	<0.0001	<0.0001	32.61	Jun(17)	Aug/Dec(5)	Feb(17)	Jan(15)
Kansas	<0.0001	<0.0001	24.35	Jul(14)	Aug(9)	Feb(17)	Jan(7)
Kentucky	0.2371	<0.0001	41.76	Jun(17)	May/Dec(7)	Feb(17)	Jan(10)
Louisiana	<0.0001	<0.0001	30.75	Jun(17)	May(7)	Feb(17)	Jan(7)
Maine	<0.0001	<0.0001	30.63	Aug(17)	Jun(9)	Feb(15)	Jan(12)
Maryland	<0.0001	<0.0001	28.16	Aug(8)	Jun(7)	Jan/Feb(17)	*
Massachusetts	<0.0001	<0.0001	30.49	Jun(17)	Aug(8)	Feb(17)	Jan(14)
Michigan	<0.0001	<0.0001	19.85	Aug(12)	Jul(8)	Mar(17)	Feb(13)
Minnesota	<0.0001	<0.0001	35.46	Jun(13)	May(6)	Feb(16)	Jan(8)
Mississippi	0.0913	<0.0001	23.02	Jun(17)	May(7)	Feb(17)	Jan(8)
Missouri	<0.0001	<0.0001	20.18	Jul(15)	Aug(12)	Feb(17)	Mar(14)
Montana	0.0067	<0.0001	38.40	Aug(17)	Jun(9)	Feb(17)	Apr(6)
Nebraska	<0.0001	<0.0001	29.32	Jun(14)	Aug(9)	Feb(17)	Jan(14)
Nevada	<0.0001	<0.0001	20.12	Jun(11)	Jul(8)	Feb(16)	Mar(8)
New Hampshire	<0.0001	<0.0001	38.16	Jun/Aug(17)	*	Feb(17)	Jan(15)
New Jersey	<0.0001	<0.0001	27.43	Jun(16)	Dec(10)	Jan/Feb(17)	*
New Mexico	<0.0001	<0.0001	29.30	Jun(17)	Sep(11)	Feb(12)	Jan(10)
New York	<0.0001	<0.0001	27.17	Apr(9)	Jun(8)	Feb(17)	Jan(9)
North Carolina	<0.0001	<0.0001	35.29	Jun(13)	Jul(9)	Feb/Mar(17)	*
North Dakota	<0.0001	<0.0001	29.53	Jun/Aug(9)	Sep/Oct(5)	Feb(12)	Jan(9)
Ohio	<0.0001	<0.0001	23.43	Jun(12)	Jul(10)	Jan/Feb(17)	*
Oklahoma	<0.0001	<0.0001	27.59	Jun(17)	May(11)	Jan/Feb(17)	*
Oregon	<0.0001	<0.0001	28.45	Jun/Aug(10)	May(7)	Feb(17)	Jan(14)
Pennsylvania	<0.0001	<0.0001	25.68	Jun(17)	Dec(6)	Jan/Feb(17)	*
Rhode Island	<0.0001	<0.0001	30.87	Jun(15)	Aug(9)	Feb(17)	Jan(14)
South Carolina	0.1222	<0.0001	29.95	Jun(17)	Dec(7)	Jan(17)	Feb(14)
South Dakota	0.0128	<0.0001	34.99	Jun(11)	Jul(10)	Feb(17)	Nov(9)
Tennessee	0.0001	<0.0001	29.62	May(16)	Jun(10)	Feb(17)	Jan(10)
Texas	<0.0001	<0.0001	27.65	Jun(13)	Dec(11)	Feb(17)	Jan(13)
Utah	0.1037	<0.0001	34.04	Aug(14)	Jun(12)	Feb(17)	Jul(5)
Vermont	<0.0001	<0.0001	29.11	Aug(14)	Sep(12)	Mar(12)	Feb(11)
Virginia	<0.0001	<0.0001	33.38	Jun(17)	Aug(9)	Feb(17)	Jan(8)
Washington	<0.0001	<0.0001	26.53	Jun(12)	Aug(11)	Feb(17)	Jan(10)
West Virginia	0.2684	<0.0001	21.95	Aug(16)	Jun(12)	Feb(16)	Oct(6)
Wisconsin	<0.0001	<0.0001	24.27	Aug(14)	Jul(10)	Feb(17)	Mar(8)
Wyoming	0.0237	<0.0001	38.51	Aug(12)	Jun(10)	Feb(14)	May(7)

\*All 34 (17x2) possible occurrences of "high-2" or "low-2" months are represented by the two tied "most frequent" months.

†Georgia has an abnormally large June (fiscal year) effect.

Two methods were used to examine seasonality. The first was spectral analysis, which identifies cyclical patterns in the data. If a cycle of a particular length is revealed to be important, then a systematic phenomenon may be inferred to underlie the pattern.<sup>4</sup> In the case of seasonality, a cycle of period 12 months would stand out, and the spectrogram of the data would be statistically different from that produced by a white noise or uniform random process (Bartlett's test). The state level data contain a prominent 12 month cycle, indicating seasonality. In addition, for 46 out of the 51 locations studied, the

spectrogram was significantly (5% level) different from that produced by a uniform random process (table 1, column 2).

Second, the time series were seasonally decomposed. This involved splitting the series into trend, seasonal, and irregular components.<sup>4</sup> Using the seasonality analysis, a number of indicators were generated. The p values in table 1, column 3 correspond to the null hypotheses of no stable seasonality in sales. At a significance level of 5%, the null hypothesis of no seasonality is rejected for all the states.

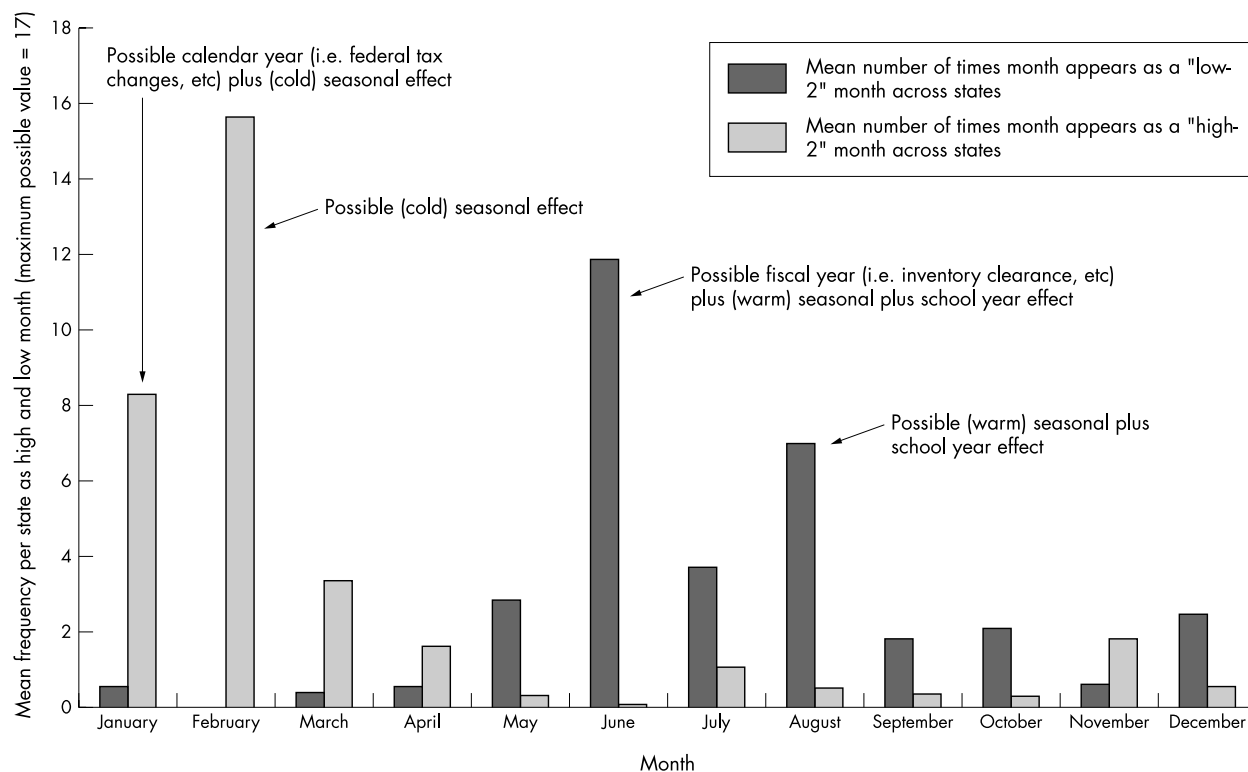
In percentage terms, the seasonal effect is large—as column 4 shows, the mean annual

range (difference between high and low factors) across the 17 years is about 30%. To put this in perspective, assuming a price elasticity of -0.4,<sup>5</sup> a 30% drop in sales would require a 75% increase in cigarette prices!

Next, to identify the months for which sales were uniformly high or low for any state, for any one year cycle in the data, the two months with the highest and the two with the lowest seasonal components were selected, and the frequency of the appearance of the months in the "high-2" and "low-2" months was computed by state. Columns 5-8 show the most frequently appearing high and low months. February appears as a "low-2" month for all but one state, and June appears as a "high-2" month for 42 states. Figure 1 shows that January and February are a "low" season for

\*This pattern is seemingly contrary to the popular belief that smokers tend to smoke more in winter (perhaps to keep warm) and less in summer.

†This was confirmed by parallel analyses of production data and discussions with an expert on the production of tobacco.



**Figure 1** Months with high and low seasonal factors (with possible reasons for prominent months).

sales, and June, July, and August, a "high" season.

Possible causes of seasonality include the effect of climate on smoking behaviour (low in cold weather and high in mild weather, especially in view of now widespread indoor smoking restrictions across the USA), the timing of tax changes (December-January or June-July), the timing of the new fiscal year (June-July), the timing of school year (August-June), and the timing of quitting efforts tied to New Year's resolutions (December-January). In the obvious extension to this research, the determinants of this potentially important statistical phenomenon will be analysed in detail.

The present findings demonstrate that sales of cigarettes in the USA have a strong seasonal component. This has potential implications for the timing of cessation initiatives and other time dependent policies. The phenomenon of seasonality could hold the key to significant advances in tobacco control and in the management of a leading public health problem.

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### Way-out developments at BATCO

Working in tobacco control, it is easy to get the impression that the tobacco industry is a united front, with all parties carefully avoiding internal divisions that might undermine the greater struggle against the "antis". However, tobacco industry documents that have been made public as a result of litigation in the USA frequently reveal ruthless competition for market share, as well as intense suspicion about competitors' activities. This was brought home to us recently when reading a 1977 document on "developments in the scientific field" by Dr Sydney J Green,

then British American Tobacco's (BAT's) senior scientist for research and development.<sup>1</sup> After several pages of unremarkable reports on industry and external research on low tar cigarettes and smoking and health, Green informed his readers about two "way-out" developments at BAT:

- Way-out development 1: "A way-out development is that of compounds (such as etorphine) which are 10,000 times as effective as analgesics [such] as morphine and which are very addictive. It is theoretically possible (if politically unthinkable) to add analytically undetectable quantities of such materials to cigarettes to create brand allegiance. But this thought may suggest the possibility of such compounds occurring naturally."

We are grateful to Dr Green for clarifying what "brand allegiance" really means for the tobacco industry.

- Way-out development 2: "Another way-out development, which arises from work done in a quite different area, is that it would now be quite feasible and quite inexpensive to produce an unacceptable off-taste in cigarettes from some factories for a prolonged period without approaching nearer than half to one mile."

In the same spirit of scientific curiosity which no doubt motivated the BATCO researchers, we would be very interested to know the formula for this substance.

On a more serious note, while we were not able to come up with any plausible candidates for a substance that could make way-out development 2 feasible, we are concerned that Green was right about the feasibility of adding etorphine or some other addictive substance to cigarettes.

Green's report followed an earlier memo from Kieth D Kilburn to CI Ayres,<sup>2</sup> expressing

concern about what BATCO's competitors might be doing to their "low delivery cigarettes" (that is, low machine measured tar and nicotine *yield* cigarettes) in order to create brand allegiance. Kilburn proposed that a regular etorphine dose of as little as 0.2 µg per day would be sufficient to create an addictive craving for the source. He also claimed that the required delivery of around 7 ng per cigarette (or around half the delivery of benzo[a]pyrene) would be analytically difficult to measure.

Etorphine is a powerful drug with heroin-like effects, which include respiratory failure in the case of overdose. It may be more familiar to readers as "elephant juice"—a veterinary drug with such high potency that a tiny quantity injected from a dart can immobilise an elephant.

The dangers of etorphine to humans have been dramatically demonstrated in accidents during veterinary use, as there have been fatal overdoses to veterinarians attempting to dart large unruly animals. Reputedly, a mere scratch from an etorphine dart has been sufficient in some cases to provide a fatal overdose. As a consequence of these fatalities, veterinarians who are registered to use etorphine must now have an assistant standing by with a dose of an etorphine antagonist in hand.

These observations on the dangers of etorphine underscore Green's and Kilburn's essential point: very low concentrations of certain psychoactive substances may be sufficient to produce important effects, including addiction. Fortunately, etorphine has become much more readily detectable in recent years than Green and Kilburn suggested was the case in 1977, because forensic toxicologists have put considerable effort into developing highly sensitive detection methods. However, in a world market with minimal regulation of cigarette additives and limited testing capacity outside the industry's own laboratories, we should remain concerned about what the tobacco industry might be willing to do in order to create "brand allegiance".

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## How to critique consultancy reports?

The recent proposals for smoke-free legislation in many countries have spawned a multitude of studies which attempt to predict the financial impact of such legislation. As described by Scollo *et al*<sup>1</sup> in this issue of *Tobacco Control*, many of these studies fail to achieve

basic quality standards and this is more likely when the tobacco industry funds the study. However, findings from such flawed studies can influence policy makers and it is essential that public health advocates have strategies to counter their impact.

In Hong Kong in 2001, the government proposed to make all workplaces, including catering venues, smoke-free.<sup>2</sup> A consultancy report for the catering industry, funded by the tobacco industry, was published shortly after and concluded that the legislation would cause catering industry revenues to drop by 10.6% leading to job losses. This report was based on a survey of customers to catering venues, self reported spend on eating and drinking out, and self predicted changes in the event that catering venues were made smoke-free. Since the methods used were not made clear in the report, we had to attempt to validate or refute the report mainly by an assessment of its findings. We found the following questions useful:

(1) Was the sample used for the consultant's survey representative of the population being studied (customers of catering venues)? Since we could not determine if sample selection was done properly, we had to look at sample characteristics. The prevalence of smokers was much higher than in other survey data indicating a bias in the sample.

(2) Did the consultant's data, when extrapolated/aggregated, agree with other standard data sources—for example, government statistics? Much of the basic data collected by the consultants was not disclosed in their report but, to make their case, they had to present some—for example, average weekly spends in the different types of catering venues. From these data we could estimate (a) expected weekly revenue in the catering industry, (b) approximate market shares for the different types of venue, and (c) weekly spend on eating out per household if the consultant's data were valid. Each of these estimates was quite implausible when compared with data from the census and other government sources.

(3) Could the consultant's findings be reproduced to shed light on the methods used? Using a new set of data based on random sampling, we tried to recreate the consultant's findings by deliberately introducing biases and incorrect aggregations which we suspected were present in the consultant's methods. In this way we were able to produce an almost identical set of results from the new data. On the other hand, when we analysed the new data in an appropriate fashion, we predicted a rise of 5% rather than a drop of nearly 11% in catering revenues.

The best means of influencing policy on smoke-free catering venues is to use objective outcome measures and data collected both before and after the intervention, as recommended by Siegel and listed by Scollo *et al*.<sup>1</sup> The study we were able to refute would have failed Siegel's quality criteria. However, since much of the lobbying against smoke-free legislation is done before such policies are put in place, local objective, before and after data are inevitably not available. In our case, presenting our rebuttal of the consultant's findings along with the evidence accumulated from overseas studies that smoke-free policies do not harm catering industry revenues, greatly reduced the harm that the consultant's report could have done to the proposed legislative process. Our approach may be helpful to policy makers faced with a similar situation in their own locality.

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## Interest in nicotine replacement therapy among pregnant smokers

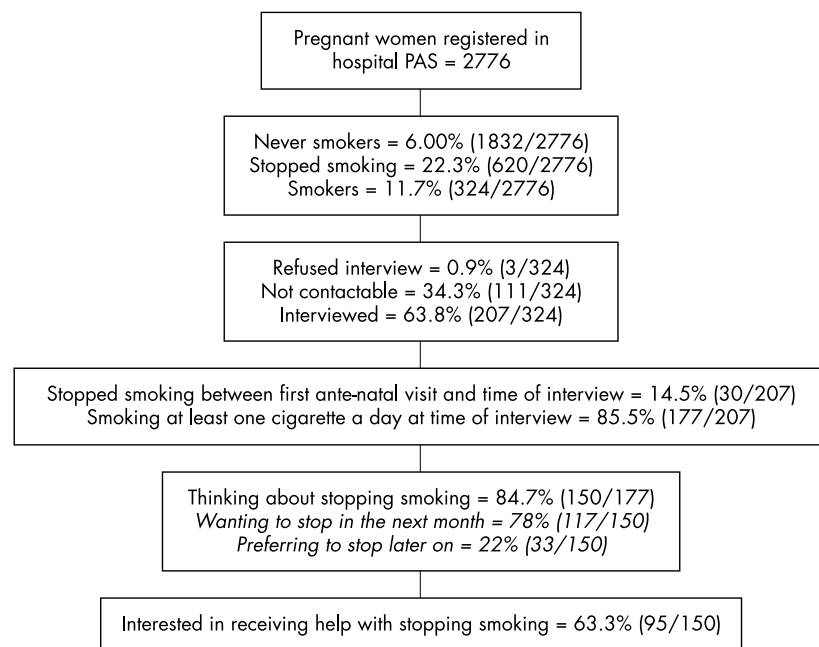
In the UK nicotine replacement therapy (NRT) may now be considered for those pregnant women who cannot otherwise stop smoking.<sup>1</sup> However, very little research has been carried out with NRT during pregnancy and the level of interest in using NRT is not known.<sup>2</sup> This letter reports the results of a survey to assess the level of interest in using NRT among pregnant smokers.

Across a seven month period pregnant smokers were identified using the patient administration system of a large district general hospital in south west London. Ethical approval was obtained and participants gave verbal consent via the telephone. Women identified as smokers at their first antenatal booking visit were telephoned within one week of this visit and invited to take part in the survey. The interview took place during the initial telephone call or during a further call within 48 hours of the initial call. All statistical tests were two tailed.

Demographic information was obtained from patient records. All the women were asked "Can I just check, are you still smoking at the moment?" ("yes" or "no"). Those still smoking were asked "About how many a day would you say you are smoking at the moment?", and "Are you thinking at all about stopping?" ("yes" or "no"). Those expressing an interest in stopping were asked "Do you think you might want to stop in the next month, or might you prefer to try a bit later on" and "Would you be interested in receiving some help from the hospital with stopping?" ("yes" or "no"). Women stating an interest in receiving help were asked "Some forms of nicotine replacement therapy (NRT) can now be used by pregnant smokers who feel they wouldn't be able to stop without it. Would you choose to use NRT to help you to stop smoking?" ("yes" or "no").

Of the 207 smokers interviewed (fig 1) the large majority were not in professional/managerial occupations (85.0%, 176/207), were white (75.8%, 157/207), and attended their first antenatal booking visit in the hospital (66.7%, 138/207) rather than in the community. The mean (SD) duration of pregnancy was 18.6 (5.6) weeks and the mean (SD) reported number of cigarettes smoked per day was 7.3 (6.1).

Of those women reporting that they were thinking about stopping smoking 44.7% (67/150) expressed an interest in using NRT. Interest in NRT was higher among women who reported smoking more cigarettes per day (analysis of variance (ANOVA):  $F = 7.6$ ,



**Figure 1** Participant flow. PAS, patient administration system.

$p = 0.006$ ; mean (SD) cigarettes a day: interested in NRT ( $n = 67$ ) = 9.5 (6.3), not interested in NRT ( $n = 83$ ) = 7.1 (4.2)). Following current licensing regulations,<sup>1</sup> 39.3% (59/150) of the women wanting to stop smoking reported smoking sufficient cigarettes per day ( $\geq 10$ ) to be considered eligible for NRT. Interest in using NRT was significantly higher for those smoking at least 10 cigarettes a day ( $\chi^2: \chi = 5.0, p = 0.03$ ; 10 or more cigarettes a day: interested in NRT = 55.9% (33/59), less than 10 cigarettes a day: interested in NRT = 37.4% (34/91)). Overall, 22% (33/150) of those reporting wanting to stop smoking were both interested in NRT and eligible for NRT.

The results indicate a high level of interest in stopping smoking among pregnant women still smoking following their first antenatal booking and a moderate level of interest in using NRT. Fewer women were recorded as smokers at their first antenatal visit than would be expected from national data.<sup>3</sup> This is likely to be because of the high number of Asian women in the local population. Encouragingly, those women who were heavier smokers, and were therefore eligible for NRT, showed most interest in NRT. Around a quarter of the smokers wanting to stop were both eligible for NRT and interested in using NRT. These findings add support to the argument for conducting further trials of NRT for pregnant smokers. The ultimate test of the acceptability of NRT for these women will be the degree to which NRT is utilised.

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Conflicts of interest: Robert West has previously been involved in research and consultancy sponsored by manufacturers of nicotine replacement therapy.

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#### Voodoo cigarillos: bidis in disguise?

As part of its routine monitoring of emerging tobacco products, "Trinkets & trash: artifacts of the tobacco epidemic", a collection of current and historic tobacco marketing ([www.trinketsandtrash.org](http://www.trinketsandtrash.org)), recently identified a new tobacco product called Voodoo cigarillos. They are exclusively manufactured in India for the US based Kretek International, a specialty tobacco distributor whose exclusive product line includes Djarum clove cigarettes, Darshan bidis, and Dreams multi-coloured and flavoured cocktail cigarettes.<sup>1</sup> The Voodoo cigarillos we obtained were flavoured and, as with bidis, consisted of tobacco flakes wrapped in a leaf tied with a small string. Aside from a slightly larger and more uniform cylindrical shape, Voodoo cigarillos appear to be nearly identical to bidis (fig 1). Only the name on the package would identify it as a cigarillo. US federal regulations define a cigar as any roll of tobacco wrapped in leaf tobacco or in any substance containing tobacco.<sup>2</sup> Voodoo cigarillos appear to be wrapped in tendu leaf, which do not naturally contain tobacco.

So we ask, is this new product a cigarillo or a bidi with new packaging? Federal regulations define a cigarette as any roll of tobacco wrapped in paper or in any substance *not* containing tobacco.<sup>3</sup> The US Bureau of Alcohol, Tobacco and Firearms previously concluded the bidi wrapper did not contain tobacco and, therefore, bidis were subject to the federal cigarette tax.<sup>4</sup>



**Figure 1** Voodoo cigarillo and Darshan bidi.

The distinction between a cigarillo and a cigarette has important legal and financial implications. Since the wrapper of a cigarillo contains tobacco, cigarillos are taxed at the same rate as small cigars. In 2002, the US federal tax rate for small cigars was 4 cents per pack of 20, while the rate for cigarettes was 39 cents per pack of 20.<sup>5</sup> While all 50 states impose a tax on cigarettes, only 45 states impose a tax on cigars,<sup>6</sup> which are lower than their cigarette tax.<sup>7</sup> If Voodoo cigarillos are taxed at the rate of cigars, the lower federal and state taxes mean a higher profit margin for the merchant and/or lower prices for consumers.

In addition to tax differences, labelling the Voodoo product as a cigarillo has important consequences for their regulation. Several states have expanded their definition of tobacco products to include bidis, making sales to minors illegal. Illinois, Vermont, and West Virginia banned the sale of bidis completely.<sup>8</sup> More recently, California passed a bill prohibiting the sale, distribution or importation of bidis except by businesses that prohibit minors, such as bars and casinos.<sup>9</sup> Also, federal legislation to halt the importation of bidis into the USA was introduced in 2001.<sup>8</sup> By being sold as a cigar product, Voodoo cigarillos would get around the ban on bidi sales in some states.

This new product emerges at a time when bidi sales are vulnerable to increased regulation at the state, and possibly the federal level, as well as higher cigarette excise taxes in 19 states in 2002.<sup>7</sup> The Voodoo cigarillo may be a clever way for the tobacco industry to circumvent the regulations and restrictions imposed on bidis. Voodoo cigarillos should be reliably tested to determine if manufacturers and vendors are in compliance with federal and state laws.

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### Smoking in children's picture books

The other day, one of the authors went to a public library with his 3 year old daughter to read some picture books to her. Various picture books, from classic to newly published, were available. Classic books are her favourite. First, she chose a book portraying adventures of a naughty monkey named Curious George (by HA Rey). He came to an industrialised country with a man in a yellow hat. My daughter pointed to a picture of the man holding a pipe between his lips. A smoking scene in a picture book for small children!

The next book she chose depicted an elephant named Babar (by Jean De Brunhoff) that fled from his country to Europe after his mother was killed by men. After coming back to his country with western technologies, he changed elephant society into Western-style society and became a king. Again, the King Babar was holding a pipe.



The third book was depicting a monster named Barbapapa living with François' family (by Tison and Taylor). He had a mysterious ability to metamorphose into anything he desired. Unfortunately, in this attractive book, François' father was always holding a pipe. Another supporting character was smoking a cigar. Smoking seems to be a symbol of manhood in these children's picture books.

My daughter then opened books about Moominvalley (by Tove Jansson) and Tintin's

adventures (by Herge) in which some characters were smoking. Finally, I myself selected a book depicting Father Christmas (by Raymond Briggs). On Christmas Eve, Father Christmas delivered presents to children all over the world. After the labourious job, he took a rest smoking a cigar and a pipe.

Picture books reflect the norms or perceptions of our societies. These classic children's books were first published in times when smoking was not widely acknowledged as harmful and a smoking male adult was one of the sex stereotypes. In addition, pipe smoking seems acceptable in such picture books compared with cigars or cigarettes which are seldom seen.

Caregivers frequently read picture books aloud to children at home, kindergartens, or daycare centres, which may have a considerable influence on preschool children. Young children receive strong messages from pictures. Seeing adult males smoking in picture books, they may take it as a desirable behaviour.

It would be unacceptable to remove smoking scenes from these classic books or eliminate the books themselves. What we can do is to become aware of the potential influence of these books and take a negative attitude to smoking when we read to children. Fortunately, the man in a yellow hat seems to have quit smoking in the new series of George's adventures.

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Getting them while they're young in China. Submitted by Professor TH Lam, Hong Kong.

## BOOK REVIEW

### Smoke-filled rooms: a postmortem on the tobacco deal

By W Kip Viscusi, University of Chicago Press, 2002, \$27.50, 263 pp, ISBN 0-226-85747-6

#### Smoke and mirrors

Cigarettes are a major cause of premature death. Cigarettes are addictive. Secondhand smoke can be annoying, but is really not enough of a health risk to justify banning smoking in indoor environments. Payments to states in the Master Settlement Agreement were unjustified since cigarettes are self-financing. States actually save money because smokers die young. Lawsuits against the tobacco industry are without merit, since smokers have long known about the health risks. Continuing efforts to warn the public about the health risks of smoking are unwarranted since public awareness of these risks are now universal. Filters and low tar technology have made cigarette smoking safer, but more could be done to encourage cigarette manufacturers to produce a less toxic cigarette. The government should focus on giving smokers information about the risks posed by different types of cigarettes, which would foster market competition in the development of safer cigarettes while at the same time preserving individual choice.

Such are the views expressed by Harvard Law Professor W Kip Viscusi in his new book entitled *Smoked-filled rooms*. If cigarette smoking hasn't already caused one to become short of breath, reading this book surely will. Viscusi's selective presentation of data on what consumers do and don't know about the risks of smoking, the dangers of secondhand smoke, the benefits of filtered and low tar cigarettes, and ultimately who should be held accountable for the massive death toll caused by smoking cigarettes is breathtaking. This book leaves one with the impression that the cigarette industry and not the American public has been the victim in what has been a massive money grab by greedy trial lawyers and media starved state attorneys general. It appears that Dr Viscusi has spent a few too many hours in smoked filled rooms to be able to reasonably separate fact from fiction. However, one fact is crystal clear—Viscusi is not the unbiased observer of the tobacco industry. He acknowledges that he has served as an expert witness for the cigarette industry. Thus, his diatribe against plaintiff lawyers, some of whom have risked their own personal fortunes to shed light on the lies and deceit of the cigarette industry, seem misplaced. Viscusi ought to take a look in the mirror.

Reading this book leaves one with the impression that the cigarette industry bears no responsibility for marketing what is admittedly a lethal and addictive product that results in the premature death of one out of every two users. Viscusi dismisses the evidence revealing how cigarette manufacturers knowingly misrepresented the dangers of smoking to the American public on the grounds that smokers knew everything they needed to know about smoking in order to make an informed choice. However, one needs to question whether this assumption is correct. The evidence presented in chapter 7 to support the claim that smokers are fully informed is far from compelling. Viscusi misrepresents polling data showing that the pub-

lic has long been aware of medical reports linking smoking and cancer as evidence that smokers were fully informed of health risks. He must surely recognise that having a general awareness that smoking causes cancer does not necessarily translate into a belief that one is personally at higher risk of developing cancer.<sup>1</sup> In fact studies conducted by Viscusi himself demonstrate that smokers as a group are less likely to perceive health risks from smoking compared to non-smokers. He also fails to mention the knowledge deficits that many smokers have regarding compensatory smoking, the lack of benefits from smoking filtered and low tar cigarettes, and product defects.<sup>2,3</sup> Viscusi ignores evidence revealing how cigarette manufacturers have designed their cigarettes to induce dependency on nicotine.<sup>4</sup> He also conveniently ignores the data showing that most people begin their smoking careers during their teenage years when health concerns about smoking and addiction are not in the realm of consciousness.<sup>5</sup>

Viscusi's chapter on the factors involved in youth smoking behaviour represents an exercise in selective recall, laying the blame for youth smoking mainly on parents. Hardly a mention is made of the billions of dollars spent annually by cigarette companies to advertise and promote cigarettes. Viscusi also ignores the mountains of internal industry documents that openly discussed the importance of the youth smoking market to the economic viability of the cigarette industry.<sup>6</sup> Instead he accepts at face value the industry's line that they don't want kids to smoke. Viscusi's remedy for the youth smoking problem is to get parents do more to keep their kids from smoking and to enact policies to prohibit the sale of unconventional cigarettes like bidis. The discussion of bidis is especially odd since hardly any teenagers smoke these products; instead teenagers smoke Marlboro, Newport, and Camel. Thus, while one can hardly argue with Viscusi's plea for better parenting, his failure to recommend stronger measures to curb how tobacco companies market their cigarettes to attract the attention of youthful smokers makes the sincerity of his recommendations suspect.

Viscusi's chapter on the health risks associated with secondhand tobacco smoke is grossly uninformed. Much of this chapter reads like it was drawn from industry sponsored websites that have been designed to spread misinformation, downplaying the well documented scientific evidence linking secondhand smoke exposure to a wide array of health risk. Remarkably, Viscusi suggests that limits on indoor smoking are unjustified and bad for the economy because such restrictions cause smokers to consume fewer cigarettes, and, therefore, "losses accrue to society in terms of foregone taxes".

Viscusi's sharp criticism of current public health campaigns to warn the public about the health risks of smoking defies common sense. According to Viscusi, since public awareness of the health risks of smoking are nearly universal, there is no need to keep repeating these messages. In fact he argues that such efforts are counterproductive because people are likely to form unrealistic risk perceptions about smoking. Such reasoning is illogical. By analogy, if one were to accept Viscusi's premise that once the public recognises the health risks of smoking there is no need to reinforce health messages, then one would also have to accept the idea that there is no need to spend a dime advertising Marlboro cigarettes since the Marlboro Man is nearly



universally recognised. Apparently, cigarette manufacturers don't accept Viscusi's logic and nor should the public health community. Declining cigarette consumption in the USA since the 1960s corresponds directly to increased efforts to inform the public of the dangers of tobacco use.<sup>7</sup> Viscusi's criticism of the current wave of edgy in your face counter-advertising campaigns ignores the evidence that these programmes are actually reducing cigarette consumption.<sup>8</sup> Instead of continuing these effective public health campaigns, Viscusi recommends that the government refocus its efforts towards giving smokers information about the risks posed by different types of cigarettes in the hope that this would move smokers to use less toxic cigarettes.

Viscusi is correct in noting an important deficiency of the Master Settlement Agreement that has made it difficult for new tobacco companies to enter the market, thus dampening competition for the development of potentially safer tobacco products. However, his credibility on this subject is diminished by his acceptance of the view that filtered and low tar cigarettes have actually benefited the public's health. Convincing evidence to demonstrate a measurable public health benefit gained from lowering the machine measured tar yield of cigarettes has proven elusive.<sup>9</sup> Moreover, on a population wide basis, a strong argument can be made that the marketing of lower tar cigarette brands had an adverse impact on the public's health by convincing a segment of smokers who might have otherwise stopped smoking to maintain their smoking behaviour under the illusion that their disease risk would be reduced by switching to a filtered low tar cigarette.<sup>10</sup>

In summary, *Smoked-filled rooms* reads more like a legal brief written by a team of tobacco industry lawyers instead of a thoughtful commentary on the legal, financial, and social consequences of smoking. As such this book is a must read for plaintiffs' attorneys, but for the rest of us we should stick with "smoke-free rooms".

K M Cummings

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#### Disclosure

K Michael Cummings is not an unbiased observer of Dr Viscusi's research and writings. He has served as a paid expert witness on behalf of plaintiffs counsel in several of the same cases in which Dr Viscusi also served as an expert for the cigarette industry. Dr Cummings is currently employed as a senior research scientist and is chairman of the Department of Health Behavior in the Division of Cancer Prevention and Population

Sciences at the Roswell Park Cancer Institute in Buffalo, New York, USA. His salary support comes primarily from Roswell Park Cancer Institute and from research funding provided by the National Cancer Institute, the Robert Wood Johnson Foundation, the American Legacy Foundation, and New York State Department of Health. Dr Cummings serves on the medical advisory board for the Flight Attendant Medical Research Institute (FAMRI) and has served on various scientific advisory boards and grant review committees for National Institutes of Health, Centres for Disease Control and Prevention, American Cancer Society, Canadian National Cancer Institute, Robert Wood Johnson Foundation, and state and local health agencies for which he has received honoraria. Dr Cummings has also received honoraria and has accepted hospitality and on a few occasions, travel costs, from pharmaceutical companies making tobacco dependence treatment products.

## The lighter side .....



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