A guide to deciphering the internal codes used by the tobacco industry

Many tobacco control researchers and advocates are now aware of the value of the internal tobacco industry documents made public as a result of the state attorney generals’ Master Settlement Agreement. A growing body of document based research provides dramatic insight into industry initiatives and strategies. These published studies also provide countless examples of the secret language commonly used by the tobacco industry internally. As observed in Philip Morris’ Dictionary of tobacco terminology: “Every specialized field has its own language.”1 The language of the internal documents is frequently comprised of project names, acronyms, abbreviations, numerical identifiers, and other coded terms, presented without any clear indication of their definitions or meanings. These coded terms can make the task of document research very daunting: like trying to learn a foreign language without an instructor or reference dictionary.

Familiarity with the codes used internally by manufacturers is critical to successfully conducting document research and interpreting internal industry activities. Although individual efforts have described the codes relevant to particular topics of research, no single research group has sought to identify the full extent and types of code languages used by the industry or the patterns governing internal codes. Many tobacco companies do maintain internal lists of terms. For example, over a dozen Philip Morris documents are devoted solely to providing their personnel with guides to the company’s extensive acronyms, abbreviations, codes, and terminology. Ultimately, however, the majority of terms and project names are not covered in internal lists, and understanding the meaning of internal codes necessitates both careful research as well as recognition of the common patterns and conventions employed throughout this terminology.

A critical role for tobacco control researchers is to develop and share information that can facilitate and expedite future research. A recent monograph, A guide to deciphering the internal codes used by the tobacco industry, available on the Harvard School of Public Health website (http://www.hsph.harvard.edu/php/pr/ctcrp/home.html), identifies and describes a number of industry code lists and highlights different types of industry codes, both formal and informal, ranging from acronyms to “catchy” names, from numerical coding and letter patterning to signs of the zodiac and the names of world rivers. This monograph is part of a larger research project funded through a grant from the National Cancer Institute to list and define codes and project names used internally by the industry in areas related to product research, including product development, testing, and design. The ongoing list is housed online at http://tobaccodocuments.org/profiles. We encourage other document researchers to expand this list by posting codes and definitions that they have encountered. The public health community has benefited in extraordinary ways through the availability of the documents to all; now we need to work together to identify and expose the secrets hidden within these documents.

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This research was funded through ROI grant CA87477-05 from the National Cancer Institute.

REFERENCE


Table 1 Perceptions of truth telling by tobacco companies in 2004

<table>
<thead>
<tr>
<th>Total (n = 2997)</th>
<th>Smokers* (n = 638)</th>
<th>Former smokers† (n = 833)</th>
<th>Never smokers (n = 1524)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never tell the truth</td>
<td>26.7</td>
<td>32.0</td>
<td>28.7</td>
</tr>
<tr>
<td>Mostly do not tell the truth</td>
<td>52.3</td>
<td>39.3</td>
<td>56.5</td>
</tr>
<tr>
<td>Mostly tell the truth</td>
<td>15.5</td>
<td>21.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Always tell the truth</td>
<td>0.8</td>
<td>1.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Don’t know/can’t say/refused</td>
<td>4.6</td>
<td>5.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Data weighted by age and sex according to Australian Bureau of Statistics population Census data for 2001.

*Smokers include those who smoke daily, weekly or less than weekly.
†Former smokers include those who had smoked at least 100 cigarettes or an equivalent amount of tobacco in their lifetime.
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doi: 10.1136/tc.2005.013664

REFERENCES
3 Trotter L, Chapman S. Conclusions about exposure to ETS and health that will be unhelpful to us: how the tobacco industry attempted to delay and discredit the 1997 Australian National Health and Medical Research Council report on passive smoking. Tobacco Control 2003;12(suppl iii):i102–6.

Selling or promotion?
In Australia, the Tobacco Advertising Prohibition Act (1993) bans most forms of tobacco advertising and promotion. In response to restrictions, the tobacco industry has resorted to “below the line” activities such as event promotions at music festivals, fashion parades, entertainment venues, casinos, bars, and nightclubs. At these events, tobacco products are promoted under the guise of “selling”. It is important to expose these promotional activities as they may constitute breaches of the Act.

An audit of nine of the heavily advertised large youth music events in Perth found that the tobacco industry was actively promoting tobacco products at these events. At the single indoor event, cigarettes were sold via a vending machine and there were no promotional activities. At the eight outdoor events, cigarettes were sold in tents set up as “chill-out” areas in which chairs were provided for people to relax. The tents were staffed by young women selling tobacco products, ancillary products, and merchandise (for example, beer holders bearing the Rizla cigarette packet logo). At two events “cigarette girls”, dressed in Peter Stuyvesant brand colours, walked around the venues with trays of cigarettes for sale.

Approximately half of the events were not restricted to those aged 18 years and over, thus exposing patrons aged under 18 years to the promotional activities of the tobacco companies. Not only do youth music events provide direct access to a primary target market for tobacco companies, but they also allow the marketers to build brand images by associating their brands with youth popular culture. Smoking becomes more acceptable with the enjoyable experience of the music and fun atmosphere of the events, thus reinforcing the behaviour of current smokers and building more positive attitudes towards smoking among experimenters and non-smokers.

The state government of Western Australia recently introduced legislation which, if enacted, will assist in controlling the promotion of tobacco products at events. Specifically, the proposed Tobacco Products Control Bill 2005 bans the mobile selling of tobacco products (currently not considered to be promotion, and permitted as “selling”). It also contains provisions to prohibit the sale or supply of tobacco products via temporary premises at events that are expected to attract significant numbers of people aged under 18 years. This proposed new legislation will further restrict the marketing opportunities of tobacco companies.

Response to E Yano and S Chapman
Professor Eiji Yano raises a number of issues in his letter1 which responded to my commentary2 on his article3 about the Japanese spousal study, as does Chapman in his editorial.4 Here I reply to the main points raised.

Studies of environmental tobacco smoke (ETS) exposure and lung cancer commonly identify a group of self-reported non-smoking women and then compare risk according to the smoking habits of the husband. If some true smokers are erroneously included among the female subjects, an apparent relationship of spousal smoking with lung cancer may be seen even when no true effect of ETS exists. This has been mathematically demonstrated (for example, Lee and Forey), with attempts to correct for it made by major independent authoritative reviews of the evidence on passive smoking and lung cancer.5 The magnitude of the bias depends (among other things) on the extent to which women who smoke are misclassified as non-smokers. It can also be shown mathematically that a given rate of misclassification of smokers as non-smokers is a much more important cause of bias than is the same rate of the reverse misclassification, of non-smokers as smokers. Since such reverse misclassification is also implausible, adult women having little reason to claim erroneously to be smokers, the major reviews6–8 have all ignored its minor effects.

Given that in the Japanese spousal study (using a urinary cotinine/creatinine ratio [CCR] above 100 ng/mg as an index of true smoking) the reverse misclassification rate (8/298 = 2.7%) was much lower than the misclassification rate itself (8/28 = 28.6%), it becomes abundantly clear that reverse misclassification is not relevant to the passive smoking/lung cancer issue. It is difficult to understand why Yano places such emphasis on it.

Yano1 states that I am “confused with the calculation formula” and that “my definition of misclassification was obtained by dividing those with > 100 ng/mg CCR (n = 28) by self reported non-smokers (n = 318)”. It appears that Yano himself is confused. I had previously made it clear that the denominator should not be 318, but 98, the number of women with a CCR value indicative of smoking (or perhaps 106, if it also includes those women who claimed to smoke but had a CCR < 100 ng/ml).

The misclassification rate calculation is clearly based on CCR > 100 ng/ml, normally indicating smoking. Such a formula is widely used, though may be subject to some error, and was the best technique available at the time. Most smokers admit to smoking, so that self report has some validity as an indication of true smoking status, but it does not help us estimate the magnitude of the misclassification bias. The observed lack of correlation in the Japanese spousal study between CCR in non-smokers (with CCR < 100 ng/ml) and other indices of ETS exposure suggests that inaccuracy in CCR measurement at low levels may be important. However, such inaccuracy may not be relevant to the misclassification rate calculation, which merely attempts to use CCR to distinguish smokers from non-smokers. Over half the self reported non-smokers with values over 100 ng/ml actually had values of 1000 ng/ml, and it would be very surprising indeed if errors in CCR measurement were so huge that these women were really non-smokers.

Though I would be happy to see results of further studies using up to date, state of the art chemical methods to detect nicotine metabolites in self reported non-smokers, the conclusion I reached in 1995 that misclassification rates are much higher in Japanese than in
Western populations seems to be correct. I note that the existence of high misclassification rates in Asian women has in fact been independently confirmed.7

Yano states that I used his data without his consent. As far as I am aware, the data never belonged to Yano. The study had been funded by the industry which had carried out the cotinine analyses (blind of self reported smoking status). I had originally supposed that the study be done, following conduct of a similar study in England, which the industry supported at my request, the results of which I reported.11 The original intention had been for Yano to be a major author, but problems arose because of his interpretation of the findings differed materially from mine, due to his misunderstanding of the complexities of misclassification. Discussions took place between Yano and Proctor, who played an important role in the planning and organisation of the study on behalf of the tobacco companies who funded it; I was told that these discussions led to Yano deciding not to follow the planning, and to his authorship that the work would be published by others. I had assumed that Proctor would keep Yano informed about the status of the publication and was surprised Yano did not find out about the paper, published in 1999, until some seven or eight years later. Clearly, one of us should have kept him informed, and for this I apologise. In his original article,1 Yano states that “at no stage in my interactions with Proctor was Lee’s name or misclassification made this impossible. There was a joint enterprise, as I saw it, and it is impossible to see why I imagine a more flagrant example of attempted ghost authorship”. It is difficult to see why Chapman and Proctor are not aware of the previous literature on misclassification rates in Japanese women.13

At the end of the day it is interesting that, though the evidence of high misclassification rates in Japanese women has been independently confirmed,7 the relevance of this to the ETS/lung cancer relationship has been ignored in recent major reviews of ETS and lung cancer (for example, Hackshaw et al13, International Agency for Research on Cancer14). I have demonstrated the major biasing effect of this finding in detail elsewhere.11

Should a paper with erroneous interpretations based on invalid measurements be published?

In response to Mr Lee’s comment1 which follows previous responses14 and my paper,1 I offer further clarification to resolve an apparent misunderstanding of the validity and reliability of cotinine/creatinine ratio (CCR) measurement and his mishandling of the formula of misclassification. I also express concerns about the ethics of the study’s scientific integrity in his reporting1 of the Japanese spousal study, including his authorship. As I demonstrated,1 all indices of nicotine exposure (ambient room, personal sampler monitors, and depletion test) were well correlated but correlated poorly with CCR, raising doubts about the validity of the CCR measurement. Yet Lee maintains that CCR measurement in this study was the gold standard for distinguishing true smokers from falsely reporting smokers. There are several possibilities about why the CCR measurement may have been invalid and unreliable in this study. In 1991 when I sent the urine samples to the RJ Reynolds laboratory (where the measurement was performed), I was informed that the temperature of the sample had sublimated before it reached the laboratory. This suggests that the sample was not maintained at low temperature before analysis. Cotinine measurement is temperature and time sensitive, so the sample was exposed to high temperature which can make the measurement inaccurate.14

As I calculated,1 the misclassification and reverse is dependent on the prevalence of smoking. With only a slight (3%) inaccuracy in CCR measurement, he can thereby easily get more than three times higher (21% v 6%) “misclassification” in a population with lower smoking prevalence, such as with Asian women. After a long discussion between Proctor and me, Proctor finally understood and accepted my point on the misclassification formula. Our final draft of the misclassification formula which Proctor sent to me on 9 November 1992 with my name as a sole author, clearly mentioned the high proportion of misclassification in both sides (self reported non-smoking subject with high CCR and self reported smokers with low CCR). Lee insists that reverse misclassification is relatively unimportant in his “abundant” mathematical publications. However, I note that this seems to have realtionship with using 28/106 as the misclassification rate of self reported smokers in his original study,4 having quietly switched to 28/98 for this rate after I pointed out his conclusion. Despite his claim that reverse misclassification is implausible, it was observed as a fact.

Lee states that as far as he is aware “the data never belonged to Yano”. He should be aware that I developed the questionnaire, and that the study was conducted by and with the support of the industry which supervised the survey at the study area (Shizuoka), erroneously referred to in Lee’s paper as “Shizoka”. I planned and ordered the data input, performed the data analysis, and set the disc to Proctor and Lee who understood the experience of possible sample damage (from dry ice sublimation) by the commercial
shipment at the first phase study in 1991. I even transported the second phase samples myself to the RJ Reynolds laboratory, in Winston Salem, North Carolina, where CCR was measured. I discussed the scientific content of the study with Proctor many times and he accepted my points1 and revised the draft many times, always with my name as the author, and never with Lee’s. As can be seen in the final draft,2 Proctor and I reached a certain agreement on the misclassification formula and the importance of the reverse misclassification rate.

Because Lee never participated in the actual survey it may be that he was unaware of details of the research such as the integrity of the sample which may have seriously affected the interpretation of results. Nor did he participate in the discussion which led Proctor and I to a deeper understanding of the analysis.2 Despite this, still claims that he proposed the research project, he has a right to sole authorship regardless of who actually conducted the research. This is a unique idea that few scientists would accept.

Lee states: “Had I not published the paper it seems that the findings would never have appeared in the public domain at all. Did Yano also have sole rights to suppress the findings?” Again, I remind Lee that Proctor and I agreed that the results did not indicate high misclassification in self report non-smokers but some failure in the study. And I agreed that the results did not indicate that the content of the study with Proctor many times was totally different from what Lee even-7 considered to ensure that globalization becomes a reality.

 penned to truth, I have a responsibility to be accurate and complete in reporting the results of research. In the current context, I consider that a description of a failed study involving the inaccurate measurement of CCR was undeserving of publication.

On health but also on communities, economies, and the environment. Esson and Leeder give a very brief introduction to the impact of tobacco on health and then seek to establish a link between tobacco and poverty in each of the eight MDGs. The book summarises one of the economic arguments that often rates highly with governments: “Tobacco has a negative impact on the balance of payments of many countries. Two-thirds of 161 countries, where data are available, are net importers of tobacco, losing more hard currency in cigarette imports than they gain in exporting tobacco.”

After giving an overview of the relationship between tobacco use and the MDGs the book divides issues into six sections: the WHO Commission on Macroeconomics and Health (CMH) and the WHO Framework Convention on Tobacco Control; up to date information on consumption in developing countries. Two sections cover the links between tobacco and poverty at the national and individual levels covering the first seven of the MDGs. A section addresses the need for global partnership in development and resourceful, particularly in funding mechanisms, for achieving the MDGs, and another summarises ways in which the current goals can be enhanced by a focus on strengthened tobacco control related to the particular goals or targets.

Developing countries

The book points out that focusing on tobacco use in developing countries has often seemed a distraction. The data from developing countries is often rare, agencies often see water and sanitation as more critical than tobacco, the economic and health costs are seen as an issue in high income countries rather than those with limited health and economic impact data, and the developing countries often see the cultivation and production of tobacco as an economic benefit.

Lee PN


References

4 Yano E. Japanese spousal smoking study revisited: how a tobacco industry funded paper

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<th>Total</th>
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<tbody>
<tr>
<td>A: if 10% smoke</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High (&gt;100)</td>
<td>97</td>
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<td>124</td>
<td></td>
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<td></td>
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CCR, cotinine/creatinine

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P N Lee

_Tob Control_ 2005 14: 430-431
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