



## **Smoker misperceptions around tobacco: national survey data of particular relevance to protecting Māori health**

The Māori Affairs Select Committee is undertaking an inquiry into “the tobacco industry in Aotearoa and the consequences of tobacco use for Maori”.<sup>1</sup> Whilst tobacco impacts on all New Zealand society, this inquiry is very appropriate from a public health perspective given tobacco’s contribution to poorer health for Māori and to health inequalities in New Zealand.<sup>2,3</sup> Tobacco use also has a highly adverse impact on Māori social, cultural and economic development (e.g. expenditure on cigarettes by Māori in 2000 was estimated at \$266 million per year<sup>4</sup>). The timeliness of this issue is further demonstrated by recent calls by Māori political leaders for advancing the tobacco endgame.<sup>5</sup>

A possible contributor to the continued high prevalence of tobacco smoking among Māori is underestimation of the extent of the risks to health posed by tobacco smoking and secondhand smoke exposure, and misperceptions that “light”, menthol and roll-your-own (RYO) cigarettes are safer forms of smoked tobacco. Other possible misperceptions include that second-hand smoke is not a hazard to health and that smokeless tobacco products are as, or almost as, harmful as smoked tobacco products. To better understand issues around smoker knowledge and misperceptions, we analysed relevant data from a cohort study of smokers.

The data came from a national survey of 1376 New Zealand adult (18+ years) smokers surveyed between March 2007 and February 2008. This process involved some booster sampling of Māori (n=607 respondents). This study was the New Zealand arm of the International Tobacco Control Policy Evaluation Survey (ITC Project).<sup>6</sup> Specific questions relevant to possible misinformation included: perceptions related to light/mild cigarettes/tobacco, to menthols, and to RYO tobacco etc. Many of the same questions (and some additional ones) were repeated in the second wave of the survey, over the subsequent year (n=923 respondents). Further detail on the survey methods are available in an online *Methods Report*<sup>7</sup> and in other journal article publications from this project.<sup>8,9</sup>

The results in Table 1 indicate that sizeable minorities of both Māori and European/Other smokers have various misperceptions. Regarding light and mild cigarettes, nearly half (48%) of Māori smokers have at least one of three misperceptions which suggest (erroneously) that these cigarettes have health benefits compared to “regular” cigarettes. We have reported elsewhere<sup>8</sup> on the international literature on these misperceptions, which indicates that they are linked to branding and marketing by the tobacco industry. This marketing behaviour continues in the New Zealand setting, in the form of certain words on packs (e.g. “subtle” and “mellow”) and in the colour coding of packs.<sup>10</sup> In some New Zealand settings the words “light” and “mild” continue to be used (e.g. Woolworths online shopping as of November 2009), which is counter to the ruling by the Commerce Commission in 2008.<sup>11</sup>

The addition of menthol to tobacco helps to disguise the harsh taste of tobacco smoke and may ameliorate smoker concerns that tobacco smoking is intrinsically dangerous. Indeed, some New Zealand smokers have misperceptions about mentholated cigarettes (“menthols”) being less harmful relative to “non-mentholated” cigarettes. This misperception was significantly more common (13% vs 7%) among Māori smokers (Table 1). The available international data are generally consistent with the notion that menthols are at least as dangerous as their non-mentholated counterparts<sup>12</sup> and may even pose a greater health risk than regular cigarettes.<sup>13</sup>

**Table 1. Selected results of ITC Project surveys relevant to smoker (mis)perceptions (with all results weighted and adjusted for the complex sample design to represent the national population of smokers in New Zealand)**

Question asked (all Wave 1 data unless otherwise indicated)	Māori	European/ Other (excluding Pacific and Asian smokers)	Crude odds ratios (Māori vs European/ Other) (95% confidence intervals)	Comments
<b><i>Light and mild cigarettes</i></b>				
Agree or strongly agree that “lights” make it easier to quit smoking.	26.5%	19.3%	1.50 (1.06 – 2.13)	Māori smokers were significantly more likely to have this misperception.
Agree or strongly agree that “lights” are less harmful than regular cigarettes.	27.8%	26.8%	1.05 (0.76 – 1.46)	Further details on the use and beliefs around light cigarettes among New Zealand smokers is published elsewhere. <sup>8</sup>
Agree or strongly agree that smokers of “lights” take in less tar than smokers of regular cigarettes.	38.1%	36.4%	1.08 (0.80 – 1.46)	
Holding at least one of the above 3 beliefs that “lights” confer health benefits.	48.3%	46.4%	1.08 (0.81 – 1.44)	
<b><i>Menthols</i></b>				
Agree or strongly agree with the statement “menthol cigarettes are less harmful than regular cigarettes”. (Wave 2 data)	13.3%	6.7%	2.14 (1.03 – 4.42)	Māori smokers were significantly more likely to have this misperception.
<b><i>Roll-your-own (RYO) tobacco</i></b>				
Give the reason “not as bad for your health” for smoking RYOs among RYO smokers.*	21.8%	21.0%	1.05 (0.67 – 1.64)	–
<b><i>Harm from secondhand smoke</i></b>				
Disagree or strongly disagree that “cigarette smoke is dangerous to non-smokers”.	6.3%	8.6%	0.72 (0.44 – 1.17)	–
Say “no” when asked if secondhand smoke can cause “lung cancer in non-smokers”.	9.9%	14.7%	0.64 (0.43 – 0.96)	Māori smokers were significantly <i>less</i> likely to have this misperception.
Say “no” when asked if secondhand smoke can cause “asthma in children”.	8.5%	10.8%	0.77 (0.50 – 1.20)	–
<b><i>Lower-harm products</i></b>				
Say “no” when asked if any smokeless tobacco products are less harmful than ordinary cigarettes?	48.1%	50.8%	0.90 (0.68 – 1.19)	Further details on the knowledge and beliefs around smokeless tobacco products among
State that they have “never heard of	18.3%	15.3%	1.23	

Question asked (all Wave 1 data unless otherwise indicated)	Māori	European/ Other (excluding Pacific and Asian smokers)	Crude odds ratios (Māori vs European/ Other) (95% confidence intervals)	Comments
smokeless tobacco products”.			(0.86 – 1.78)	New Zealand smokers is published elsewhere. <sup>9</sup>
For those saying that smokeless tobacco products are less harmful – saying that they are only “a little” less harmful.	60.7%	48.2%	1.66 (0.76 – 3.63)	
<b>Other</b>				
Agree or strongly agree that “tobacco companies have done everything they can to reduce the harm caused by smoking”.	23.8%	18.1%	1.42 (1.02 – 1.97)	Māori smokers were significantly more likely to have this view (arguably a misperception given the evidence <sup>21</sup> ).

\* Includes exclusive RYO smokers and mixed (RYO + factory-made cigarette) smokers. For further details on why RYO smoking is at least as hazardous and a comparison with the misperceptions of Australian smokers, see elsewhere.<sup>22</sup>

Research has also shown that many smokers believe that “the harsher the smoke feels in your throat, the more dangerous the smoke is”.<sup>14</sup> The addition of menthol to tobacco by the tobacco industry may therefore contribute to such misperceptions, because smokers frequently agree that menthols are “more soothing on the throat”.<sup>15</sup> Indeed, over half (56%) of smokers in our study agreed with the statement that “menthol cigarettes are smoother on your throat and chest than regular cigarettes”. Māori were also significantly more likely to agree with this statement compared to Europeans (additional data not shown).

A minority (up to 10%) of Māori smokers also have specific misperceptions about the adverse health effects of second-hand smoke (as detailed in Table 1). It is possible that these misperceptions also reflect tobacco industry misinformation on this hazard which was promulgated during the build up to the last major smokefree environments law in New Zealand.<sup>16</sup>

Around a fifth of Māori and European/other smokers gave health reasons for smoking RYO cigarettes (Table 1). Yet the tobacco industry has done nothing to warn smokers about the misperception that RYO tobacco is less hazardous than smoking factory-made cigarettes. For example, while British American Tobacco (NZ) has a section on RYOs on its website, there is no mention of its health risks (as of November 2009). Furthermore, some descriptors on RYO packaging in New Zealand (e.g., the word “original”) may reinforce some smokers’ misperceptions that RYO is more “natural” and therefore less hazardous (with this “natural” belief being discussed for RYO smokers in other countries,<sup>17</sup> but not yet specifically investigated in New Zealand).

Smokers also have high levels of knowledge deficits and misperceptions around smokeless tobacco products (Table 1), with around half of Māori and European/other smokers disagreeing that smokeless tobacco products are less harmful than ordinary cigarettes. Yet smokeless products are substantially less hazardous to health than smoked tobacco, and could be used as part of a well-regulated phase-out strategy to end all tobacco sales.<sup>9</sup>

Finally, a substantial group of smokers agree or strongly agree that “tobacco companies have done everything they can to reduce the harm caused by smoking”, and Māori smokers were significantly more likely to have this view (24% compared to 18% of European/other, Table 1). This view is echoed in Year-10 students surveyed in 2008.<sup>18</sup> Over half of these students disagreed, or “did not know”, when asked if they “*support government laws that control what tobacco companies do*”, and only 38% of Māori students agreed.<sup>18</sup> Forty three percent of the students agreed that they “*would trust what tobacco companies say about the harmful/health effects of smoking*”. Such attitudes by adult smokers and by students may reflect the lack of adequately funded and effective media campaigns that inform youth and smokers about the industry. Such campaigns elsewhere have very cost-effectively lowered the risk of youth starting to smoke.<sup>19,20</sup>

In conclusion, some of these data on smoker misperceptions are likely to be associated with tobacco industry messages on packaging and elsewhere. These data may therefore help the Māori Affairs Select Committee in informing their recommendations on ending the tobacco problem in this country. While we plan further analyses of these data, we think that these early findings are of immediate relevance to policymakers, especially in the context of other evidence that the tobacco industry has consistently acted to oppose all major steps to reduce the harm from smoking in New Zealand.<sup>21</sup>

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## References:

1. New Zealand Parliament. Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Maori, 2009. [http://www.parliament.nz/en-NZ/PB/SC/BusSum/e/1/6/00DBSCH\\_INQ\\_9591\\_1-Inquiry-into-the-tobacco-industry-in-Aotearoa-and.htm](http://www.parliament.nz/en-NZ/PB/SC/BusSum/e/1/6/00DBSCH_INQ_9591_1-Inquiry-into-the-tobacco-industry-in-Aotearoa-and.htm)
2. Blakely T, Fawcett J, Hunt D, et al. What is the contribution of smoking and socioeconomic position to ethnic inequalities in mortality in New Zealand? Lancet. 2006;368:44–52.
3. Wilson N, Blakely T, Tobias M. What potential has tobacco control for reducing health inequalities? The New Zealand situation. Int J Equity Health. 2006;5:14.
4. Ministry of Health. Clearing the smoke. A five-year plan for tobacco control in New Zealand (2004-2009) Wellington Ministry of Health, 2004.

[http://www.moh.govt.nz/moh.nsf/0/AAFC588B348744B9CC256F39006EB29E/\\$File/clearingthesmoke.pdf](http://www.moh.govt.nz/moh.nsf/0/AAFC588B348744B9CC256F39006EB29E/$File/clearingthesmoke.pdf)

5. Gifford H, Bradbrook S. Recent actions by Māori politicians and health advocates for a tobacco-free Aotearoa/New Zealand, A brief review (Occasional Paper 2009/1). Wellington: Whakauae Research Services; Te Reo Mārama; Health Promotion and Public Health Policy Research Unit (HePPRU), 2009.  
<http://www.wnmeds.ac.nz/academic/dph/research/HIRP/Tobacco/Maori%20tobacco%20control%20review%20-%20Occasional%20Paper%20Feb%202009.pdf>
6. Fong GT, Cummings KM, Borland R, et al. The conceptual framework of the International Tobacco Control (ITC) Policy Evaluation Project. *Tob Control*. 2006;15 Suppl 3:iii3–11.
7. Wilson N. Methods report for the New Zealand arm of the International Tobacco Control Policy Evaluation Survey (ITC Project) (Updated 2009). Wellington: University of Otago, Wellington, 2009. <http://www.wnmeds.ac.nz/itcproject.html>
8. Wilson N, Weerasekera D, Peace J, et al. Misperceptions of "light" cigarettes abound: national survey data. *BMC Public Health*. 2009;9:126.
9. Wilson N, Borland R, Weerasekera D, et al. Smoker interest in lower-harm alternatives to cigarettes: National survey data. *Nicotine Tob Res*. 2009;[Advance Access published on October 14, 2009]. doi:10.1093/ntr/ntp152.
10. Peace J, Wilson N, Hoek J, et al. Survey of descriptors on cigarette packs: still misleading consumers? *N Z Med J*. 2009;122(1303):90–6.
11. Commerce Commission. Media Release: Consumers warned 'light' and 'mild' tobacco likely to be just as deadly as regular strength. Wellington: Commerce Commission, 2008.
12. Giovino GA, Sidney S, Gfroerer JC, et al. Epidemiology of menthol cigarette use. *Nicotine Tob Res*. 2004;6 Suppl 1:S67–81.
13. Henningfield JE, Djordjevic MV. Menthol cigarettes: research needs and challenges. *Nicotine Tob Res*. 2004;6 Suppl 1:S11–6.
14. Doxey JR, Hammond D. Beliefs about the harmfulness of different cigarette brands: Findings from the ITC-4 country survey. Joint Conference of SRNT and SRNT-Europe, Dublin, Ireland; 27-30 April, 2009.
15. Hymowitz N, Mouton C, Edkholdt H. Menthol cigarette smoking in African Americans and Whites. *Tob Control*. 1995;4:194-195.
16. Thomson G, Wilson N, Howden-Chapman P. The use and misuse of health research by parliamentary politicians during the development of a national smokefree law. *Aust New Zealand Health Policy*. 2007;4:24.
17. Young D, Fong G, Borland R, et al. Roll-Your-Own (RYO) Cigarettes: Prevalence, Reasons for Use and the Use of Filters. Findings from the ITC Four Country Survey (2002-06). Poster presented at SRNT 14th Annual General Meeting, Portland, Oregon, 2008. 2008.
18. Health Sponsorship Council. 2008 HSC Year 10 In-depth Survey Report. Wellington: Health Sponsorship Council, 2009.
19. Holtgrave DR, Wunderink KA, Vellone DM, et al. Cost-utility analysis of the National truth campaign to prevent youth smoking. *Am J Prev Med*. 2009;36:385–8.
20. Farrelly MC, Nonnemaker J, Davis KC, et al. The Influence of the National truth campaign on smoking initiation. *Am J Prev Med*. 2009;36:379–84.
21. Thomson G, Wilson N. The tobacco industry in New Zealand: A case study of the behaviour of multinational companies. Wellington: Wellington School of Medicine & Health Sciences, University of Otago, 2002.  
<http://escholarship.org/uc/item/0bd8z7s2?query=thomson%20and%20wilson%20and%20zealand>
22. Wilson N, Young D, Weerasekera D, et al. The importance of tobacco prices to roll-your-own (RYO) smokers (national survey data): higher tax needed on RYO. *N Z Med J* 2009;122(1305):92–96.