Teachers' Say About Smokefree

A New Zealand Survey

2010

Marewa Glover, Donna Watson, Chris Bullen, Judith McCool, Brian Adams and Sandar Min

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

Centre for Tobacco Control Research
Research Towards a Smokefree New Zealand

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EXECUTIVE SUMMARY

Research Aims:

A national randomised survey of New Zealand (NZ) based teachers to explore teachers' smoking-related behaviour and attitudes.

Background:

The possible influence of teachers on children's and young people's attitudes towards and uptake of smoking has received little attention. School teachers have daily interaction with and can act as influential role models to young people. Teachers present tobacco use prevention curricula, and are required to support as well as enforce school tobacco control policies. The Smoke-free Environments Amendment Act (SFEAA) (2003) mandated that the buildings and grounds of all NZ schools and early childhood centres (ECC) were smokefree 24 hours a day, 7 days a week from the beginning of 2004. In acknowledgement of the detrimental influence of modelling smoking behaviour on children and young people, a stated SFEAA aim is to "prevent young people who are being taught and cared for in registered schools or early childhood centres from being influenced by seeing other people smoke there" (Part 1 Section 4 (b) SFEAA 2003). In addition to monitoring smoking of non-school staff, the Act concerns smoking by teachers on school/ECC premises.

Whether teachers are perceived as role models or as reflectors of broader social norms held by a school or community, the current project recognises the important role teachers play in the lives of NZ children and young people. Their smoking-related attitudes and behaviours have the potential to influence those of their students.

Method:

Invitations to participate in the survey were posted in late 2008 to 2,004 teachers randomly selected from the electoral roll. The questionnaire could be completed online, by post, or by phone. We compared numbers and proportions overall, with other survey data and between groups (by sex, age group, smoking status, ethnicity, teacher level, nicotine dependence) using standard statistical tests. Narrative data were analysed using the general inductive approach.

Results:

- The overall response rate was 72%.

<u>Smoking status and behaviour</u>

- Teachers who smoke daily were underrepresented compared to 2006 census data (4% vs 8%).
- A higher proportion of Māori teachers identified as smokers than European/other teachers. One third of Māori teachers were ex-smokers.
- Thirty-seven percent of teachers, who smoke, smoked on a non-daily basis.
- Thirty-eight percent of current smokers smoked during school hours. Fewer cigarettes were smoked and smoking was less consistent on work days versus non-work days.

- For teachers who provided data on their smoking status currently, one and five years ago, 15% were current smokers compared with 19% one year ago and 27% five years ago. Two percent had started or resumed smoking in the last 12 months while six percent had stopped smoking during this time.
- Amongst current and ex-smokers who said they smoked 12 months ago, 67% reported they had tried stopping in the last year; about a third of them stopped smoking.
    - More than half (53%) of the current smokers tried to stop smoking in the last 12 months.
    - Contacting Quitline, nicotine replacement therapy (NRT) and "*going cold turkey"* were amongst the most popular cessation methods.
- The SFEAA was associated with teachers stopping smoking or making changes to their smoking behaviour (e.g. cutting down, changing when and where they smoked).
    - Of 148 participants who smoked and were teachers at the time the SFEAA was implemented, 51 changed when they smoked, while an almost equal number (n=48) made no change. Thirty-seven cut down, 18 tried to stop, and 13 quit.

<u>Teachers' as models of smoking attitudes and behaviour</u>

- A high percentage of teachers (88%) agreed that they can influence the smoking attitudes and behaviour of their students. Teachers' agreement varied depending on smoking status: only 55% of smokers thought teachers should set a good example to their students by not smoking, compared with 79% of ex- and 88% of never smokers.
- Teachers who smoke were less likely to think smoking undermined their ability to teach about tobacco: 64% of smokers thought that teachers who smoke would be less effective teachers of tobacco education, compared with 82% and 87% of ex- and never- smokers respectively;
- Most teachers (67%) thought that whether or not a teacher smokes is entirely their own business. Teachers who smoked were more likely to believe this (91%) than ex-smokers (76%) and never-smokers (67%).
- Support amongst teachers for strengthening smokefree policies was high:
    - 81% supported banning smoking directly outside school/ECC gates.
    - Overall 62% supported price increases of tobacco products, but only 12% of teachers who smoked supported a price increase.

<u>School environment</u>

- Total compliance with the SFEAA was reported by 64% of teachers. Compliance all or most of the time was reported by 89% of teachers. Six percent of teachers said their school/ECC was compliant some or none of the time.
    - Low compliance was reported most by secondary school teachers (10%), and more by teachers from decile one and two schools (10%) compared with decile nine and ten schools (1%).

- Free text comments suggested two key areas concerning non-compliance: non-compliance after school hours by people hiring school facilities and/or attending school sporting events; and non-compliance during school hours by students.

- Most teachers (82%) acknowledged their responsibility in ensuring student compliance with the SFEAA, while 39% and 51% considered they should be responsible for ensuring compliance of staff and parents respectively. Most teachers considered that the principal and other senior management should take a key role in ensuring smokefree compliance across all groups.
- Forty percent of teachers reported that their school had designated a location where staff could smoke.
    - There was a significant correlation between school decile rating and designated location to smoke. The lower the decile the more likely teachers reported that their school had a designated smoking-location.
    - Five percent of teachers indicated that a designated smoking-location was on school/ECC premises.
- Fifty-five percent of kura kaupapa Māori teachers and 30% of all teachers reported seeing staff smoking outside but within visible distance of the school/ECC gates. There was a significant correlation of increased reporting of visible staff smoking amongst teachers at lower decile schools.
- Most schools did not offer cessation support. Kura kaupapa Māori teachers and teachers from decile one and two schools were more likely to report existence of cessation support at their school.

<u>Teaching about smoking</u>

- Just under half of all teachers thought they should be more active in teaching students about smoking, but a similar number thought that such teaching should be the role of parents, rather than schools.
- More than half (53%) of all teachers agreed that tobacco prevention curricula should be included in teacher training. Teachers who smoked (34%) were less likely to support such training.
- Primary school teachers were least likely to teach about smoking (30%), while half of intermediate school teachers taught about smoking.
- Life Education Trust was used by 89% of primary and 82% of intermediate school teachers who teach about smoking, and by one fifth of secondary school teachers.
    - Amongst all teachers, just 2% indicated their school had used educational resources developed with funding by a tobacco company, and 70% would be less likely to trust such resources.
- Secondary school teachers (27%) were more than twice as likely as primary (12%) or intermediate (11%) school teachers to suggest other resources that would be of use to them for teaching about smoking.
- Primary and intermediate school teachers ranked smoking as a greater concern than alcohol, marijuana, and P and other drugs, while secondary school

teachers ranked smoking as the lowest of their concerns with regards to the students they taught.

Discussion:

The rate of quitting behaviour among teachers is higher than that of the general population. Teachers who smoked have adapted their smoking behaviour in several ways in response to the SFEAA, including reducing their tobacco consumption. Better cessation support could usefully be provided to Māori and low decile school teachers who smoke.

Teachers accepted their role as important role models for students. They were reluctant to take a greater role in teaching about smoking, but would appreciate learning more about how to prevent smoking initiation among young people.

School compliance with the SFEAA was high across teaching levels, school classification, decile rating and residential region. A small percentage of mainly low decile and secondary schools need assistance to address barriers to compliance. Smoking off school grounds but within visible range of students by school staff and teachers may require further investigation.

Intermediate school teachers were most likely to teach smokefree education, which is fitting given the sharp rise in smoking experimentation by students during intermediate school years. Resources to assist with teachers in this task may need to be reviewed. There may be a particular lack of age-appropriate resources available for use by secondary school teachers as evidenced by their greater recourse to use of a disparate range of resources.

Conclusions:

Teachers are an important occupational group who could be willingly mobilised to assist the reducing smoking initiation programme. Teachers who smoke have high motivation to quit and could be efficiently targeted for increased cessation assistance. Low decile schools and schools with higher proportions of Māori and Pacific Island student populations need more tobacco control support.

We recommend that:

- Cessation support should be more readily accessible to teachers who smoke. Public health nurses who already go into schools on a regular basis could usefully be encouraged to become Quit Card providers.
- Smokefree health promotion and cessation support could most efficiently target staff at low decile schools which serve low SES communities and schools with high proportions Māori and Pacific students.
- Research investigates possible differences in response to cues to smoke and potential genetic differences between unintentional temporary quitters and intentional quitters.
- Including training in prevention of smoking uptake in teacher training for primary and intermediate school teachers, and as an available option to secondary school teachers.
- Investigating strategies for promoting the recognition of student smoking as a concern of relative importance, specifically amongst secondary school

teachers. To this end, we recommend in-service workshops for teachers on preventing uptake of smoking.

- Enhancing school wide smokefree reminders e.g. clearly stated school signage and smokefree clauses in lease agreements where applicable.
- Providing greater support to teachers and schools where necessary to enforce student compliance with SFEAA.
- Cessation support be offered to low decile school staff within a broader programme of cessation promotion in their communities.
- Extending the reach of the SFEAA to include restricting smoking immediately outside school/ECC gates.
- Existing smokefree education resources be evaluated to ensure the efficacy and integrity of the teaching materials and content. This is particularly relevant to outreach programmes such as LET which has previously received tobacco company funding.
- There be a review of teachers' needs for smokefree education materials.

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INTRODUCTION

This report presents the results of a national random postal survey of NZ teachers exploring their smoking-related attitudes and behaviour.

The project was funded by the Ministry of Health (MoH), and was undertaken during 2008 by the University of Auckland's Centre for Tobacco Control Research (CTCR) in conjunction with the Clinical Trials Research Unit (CTRU) and the Heart Foundation (HF).

Some background to the rationale for the study and the study aims are presented next. Then a review of relevant literature is presented. Particularly we looked at smoking initiation and risk factors for uptake of smoking among young people. The role of teachers in influencing young people's smoking attitudes and behaviour is then looked at; and, then the role of smokefree restrictions in school environments.

The method section details how participants were chosen and approached for the study, how the study was conducted, what questions were asked and why, and how the data was analysed.

There are several sections to the results, presented in this order:

- Response rate and descriptive information about the participants;
- Teachers' current smoking behaviour and how their smoking behaviour has changed since the implementation of the Smoke-free Environments Amendment Act 2003 (SFEAA);
- Teachers' perceptions of their role as models of smoking related attitudes and behaviour;
- Teachers' attitudes towards smokefree, and tobacco control policies;
- School compliance with the SFEAA, how they respond to continued smoking by staff and the implications for student exposure to smoking role models;
- Teachers' attitudes to their role in teaching about smoking, their role versus that of parents in teaching children not to smoke, and the need for tobacco prevention teacher training;
- Teachers' awareness of their schools participation in health promoting initiatives;
- Tobacco prevention teaching resources;
- The relative importance of smoking as a concern.

The discussion considers how the findings relate to theory and previous research.

Finally, our conclusions are presented along with a summary of the recommendations.

A glossary of terms and list of abbreviations are appended (Appendix A & B).

BACKGROUND

Smoking is a leading cause of preventable death and disease globally (Department of Health and Human Services, 2004; 2005; Jha, Ranson, Nguyen, & Yach, 2002; Peto et al., 1996). In NZ, approximately 5,000 deaths annually are smoking related (MoH, 2006b). Historic and ongoing inequalities in socioeconomic position are reflected in the significant variation in smoking prevalence amongst ethnic groups in NZ (Hill, Blakely, & Howden-Chapman, 2003). In the 2006/07 NZ Health Survey (NZHS) 42% of Māori and 27% of Pacific peoples reported being smokers compared to 20% for the whole population (MoH, 2008b). Structural inequities which underpin increased exposure to smoking results in a disproportionate burden on health amongst ethnic groups (Robson & Harris, 2007). For example, Māori have the highest incidence of lung cancer in the world (Skuladottir & Osen, 2001), and smoking contributes to the relatively high hospitalisation rates among Pacific peoples for respiratory infections, stroke, ischaemic heart disease, and asthma (MoH, 1999).

Most smokers start smoking before the age of 18 years old (Elders, Perry, Eriksen, & Giovino, 1994), and the younger the age at which young people start to smoke, the more likely they are to become regular smokers in adulthood (CDC, 1994). McCool, Cameron, Petrie and Robinson (2003) found a considerable number of Auckland intermediate students who engaged in early experimentation with smoking. Scragg's analysis of Action on Smoking and Health (ASH) Year 10 data (Appendix C) showed a steep incline in experimentation during intermediate school. Daily smoking amongst NZ youth occurs most often during secondary school years (MoH, 2006a). Most recently, an annual survey of Year 10 NZ students (aged 14-15 years) reported the national prevalence of regular (daily, weekly or monthly) smoking at 12% (Paynter, 2009). Māori girls had the highest rate of regular smoking (30%) reflecting national ethnic health disparities (Paynter, 2009).

Reductions in the rate of smoking over the past 30 years in NZ are attributable to a range of tobacco control strategies, including tobacco taxation to increase prices, bans on tobacco advertising and sponsorship, restrictions on point of sale displays, graphic health warnings on cigarette and tobacco packets, subsidised cessation products and services, and strengthened smokefree environments legislation (Crane, Blakely, & Hill, 2004; Town & Crane, 2006). However, following considerable reductions in smoking prevalence rates during the 1970's and 80's, declines have slowed. Despite a continuing downward trend in daily smoking prevalence (MoH, 2008b), the present pace of reduction has been described as "funereal" (SmokeLess New Zealand, 2007).

The Smoke-free Environments Amendment Act 2003 (SFEAA) extended smokefree environments to include bars & restaurants. From the beginning of 2004, all schools and early childhood centres (ECC) buildings and grounds were to be smokefree 24 hours a day, 7 days a week. One of SFEAA aims was to "prevent young people who are being taught and cared for in registered schools or early childhood centres from being influenced by seeing other people smoke there" (Part 1 Section 4 (b) SFEAA 2003). This aim is consistent with one of the objectives of the "Framework for Reducing Smoking Initiation in Aotearoa-New Zealand" (Health Sponsorship Council, 2005, p. 34), which is to "reduce exposure to smoking behaviour in key social environments that influence the development of youth identity."

In the 2006 census, smoking prevalence amongst primary, intermediate and secondary school teachers was 8% (Statistics NZ, no date), well below the national smoking prevalence of 20%. There was significant variation amongst ethnic groups, however: 21% of Māori teachers smoked, (although this was still half that of the national prevalence rate for Māori, 42%), compared with 7% of non-Māori teachers.

An evaluation of the SFEAA has been conducted (Edwards et al., 2008) but it focussed on smokefree workplaces covered by the SFEAA, such as bars and restaurants, and excluded schools and ECCs. The current project grew out of the recognition of the important role teachers' play in the lives of children, and the realisation that although they have been impacted upon by the SFEAA, they have not been asked for their opinion about this change or their possible influence on the smoking related attitudes and behaviour of their students.

Research aims

The primary purpose of this research was to identify teachers' attitudes to smokefree issues such as:

- the impact of the SFEAA on teachers,
- their schools' compliance with it, and,
- teaching young people about smoking, both directly and indirectly.

The research also sought to compare the knowledge, attitudes and behaviour of teachers who did not smoke with those who did.

LITERATURE REVIEW

Smoking initiation and dependence

The addictive quality of nicotine is well documented (Glover & McRobbie, 2008). Circumventing tobacco uptake, and thus averting addiction, is the first step in a primary prevention approach to reduce health risks associated with smoking. As young people are most at risk of becoming tobacco dependent, such an approach necessitates an understanding of the determinants associated with adolescent smoking initiation.

The link between parental cigarette use and young people's uptake is well established (de Vries, Engels, Kremers, Wetzels, & Mudde, 2003; McCool et al., 2003; Scragg & Glover, 2007). This link is moderated by the quality of the relationship between young person and parent (Scragg, Reeder, Wong, Glover & Nosa, 2008). Adolescents have been shown to model their mother's cigarette use when the relationship between mother and adolescent was relatively good (Andrews, Hops, & Duncan, 1997). In addition to the modelling of smoking behaviour, children whose parents smoke are more likely to get cigarettes from family members (Scragg, Laugesen, & Robinson, 2003). Young people who were already tobacco dependent have been found to be more likely to be more dependent if their parents imposed fewer non-smoking sanctions (Luther et al., 2008). Conversely, the perception of parental non-smoking expectations has been shown to reduce adolescent uptake (Powell & Chaloupka, 2005; Simons-Morton, 2004), as has parental communication of anti-smoking attitudes, even when parents themselves smoke (Harakeh, Scholte, de Vries, & Engels, 2005).

There is also a consistent association between adolescent smoking and peer cigarette use (Conrad, Flay, & Hill, 1992; de Vries et al., 2003; Smith, Bean, Mitchell, Spezier, & Fries, 2007). Peer approval of smoking has been shown to be predictive of uptake (Conrad et al., 1992; Flay, Hu, & Richardson, 1998), while inversely, peer disapproval has been associated with a reduced risk of intention to smoke (Smith et al., 2007). The overestimation of peers who smoke has further been related to future onset of smoking (Conrad et al., 1992; Sussman et al., 1988).

Theories associated with smoking and cigarette use

Theory driven research linking adolescent smoking behaviour with the influence of parents and friends, frequently draws upon the tenets of Social Cognitive Theory (SCT) (Bandura, 1986). SCT explains human functioning in terms of the "interactive determinants" of behaviour, cognition and environment (Hughes, Hymowitz, Ockene, Simon, & Vogt, 1981), and highlights the role of the actions and attitudes of significant others. Thus, adolescents who perceive smoking as acceptable and practised by others they consider influential are more likely to be more accepting of and to mimic such behaviour. Successful role modelling is said to be reliant on consistency between word and practice. Thus, adolescents are less likely to heed smokefree messages from role models who smoke (Calmes, 1984; Frydman & Lynn, 1993).

A person who is not considered to be a role model, can still be influential in how an adolescent perceives tobacco use. The influence occurs through the perception that

smoking is normal (Alesci, 2003; Reid, McNeill, & Glynn, 1995). Reducing modelling of cigarette smoking and denormalising tobacco use are frequently provided as rationale for or objectives of smokefree initiatives (Grigg, Waa, & Bradbrook, 2008; Health Sponsorship Council, 2005). Exposure to people who smoke (Scragg, Laugesen, & Robinson, 2003), along with the ensuing perception that such behaviour is normative may influence children's attitudes towards smoking long before they actually try their first cigarette (Leventhal & Cleary, 1980). Reducing smoking role modelling and the salience of smoking, such as the visibility of teachers smoking during school hours, may result in fewer children starting to smoke.

Teachers as role models of smoking attitudes and behaviour

While the influence of parents and friends on youth smoking initiation has been established, the possible influence of non-parental adults has received less attention. School teachers for example, have daily interaction with and can act as influential role models to young people. Teachers present tobacco prevention curricula, and are required to support as well as enforce school tobacco control policies (The GTSS Collaborative Group, 2006). Whether teachers are perceived as role models or as reflectors of broader social norms held by a school or community, their smoking-related attitudes and behaviours have potential to influence those of their students.

International research suggests teachers are significant support persons and general role models for adolescents. Chinese and American adolescents, in a cross-cultural study, nominated teachers more frequently as an important non-familial adult in their lives (Bush & Dong, 2003). There is evidence that teachers' behaviour influences their students. For example adolescents who perceived their teachers to abide by a philosophy of respect and tolerance for others were more inclined to themselves demonstrate this ethos (Flanagan & Faison, 2001). The perception of teachers' non-compliance with school smokefree policy has been linked with poor support of school smokefree policy amongst adolescent students who smoke (Trinidad, Gilpin, & Pierce, 2005).

Studies linking teacher and student smoking have had variable findings. Although some studies have found no consistent association between staff and student smoking (e.g. de Moor et al., 1992), others have. For example, an effect of sex was reported by Johnson et al. (1985), where boys' smoking positively correlated with their male teachers' smoking. More recently, Poulsen et al. (2002) found students who reported exposure to teachers smoking were more likely to also report being daily smokers. No direct link was found between staff and student smoking by Johnson et al (1985). An indirect link however was proposed, suggesting that staff smoking may influence students' impressions of adult norms and acceptable social behaviour. Chen et al (2006) confirmed that there was an indirect link between teachers' smoking and adolescent smoking. This effect was most significant for male students when the teacher was male (Johnson et al., 1985). While noting the strength of the gender effect in these studies, we acknowledge the substantial differences in cultural and societal norms between the settings within which these studies were conducted and the context of the current study. That is, male smoking was more acceptable in China and in the United Kingdom in the 1980s.

Although research exploring teachers' smoking related attitudes is scarce, notable exceptions include research from the 1970's to the 1990's examining teachers' self-perceptions of their role as models of smoking behaviour. Across these studies, the majority of participants considered teachers should model non-smoking behaviour to their students, although this was less evident amongst teachers who smoked than those who did not (Chen & Winder, 1985; Newman, 1971; Nutbeam, 1987). While participants who smoked agreed that teachers generally influence students smoking behaviour, they were disinclined to agree that their personal smoking behaviour was influential (Galaif, Sussman, & Bundek, 1996; Newman, 1971; Nutbeam, 1987). Current, former and non-smokers overwhelmingly agreed that former smokers would most effectively influence students' smoking habits in a positive way (Newman, 1971). The majority of teachers reported that they would actively try to discourage students from starting to smoke (Newman, 1971) and that they would try to influence students who already smoked, to stop (Galaif et al., 1996; Nutbeam, 1987). Overall, teachers who did not smoke were more willing to try to reduce or actively address student smoking than those who did smoke (Chen & Winder, 1985; de Moor et al., 1992; Newman, 1971; Nutbeam, 1987). Teachers attitudes to school smoking restrictions have also been shown to vary depending on teachers' smoking status, with teachers who smoke showing low support of smoking policies (Galaif et al., 1996) relative to former or non smokers (de Moor et al., 1992). However, since these studies were conducted in the 1970s to 1990s it is possible that attitudes towards smoking have changed. There have been dramatic changes to smokefree environments. Research is needed to investigate teachers' current smoking related attitudes.

Schools as smokefree environments

Prior to the SFEAA indoor workplaces were required to be smokefree. Evaluation of school compliance with the law found primary and intermediate schools to be variable (Reeder & Glasgow, 2000), and compliance was poor in secondary schools (Darling & Reeder, 2003). Early evaluation of the implementation of the SFEAA in primary schools indicated that almost 80% of schools surveyed had "no difficulty" applying the SFEAA as it applied to them (Darling, Reeder, & Waa, 2006). However, even at schools and ECCs where staff who smoke leave their workplace premises to do so, they may still be within visible distance of children and students. Overseas literature indicates that when smokefree policies are introduced in schools, the percentage of students reporting exposure to teachers smoking indoors decreases, but the reported exposure to teachers smoking outdoors increases (Griesbach, Inchley, & Currie, 2002; Wold, Torsheim, Currie, & Roberts, 2004). Wold, Currie, Roberts and Aaroe (2004) note the consequence of such policies could be an increase of social modelling of smoking outside the boundaries of the sanctioned setting. Should increased visibility occur, this would directly compromise the intent of the SFEAA to reduce exposure to role models smoking. Students' perceived exposure to teachers' smoking has been associated with student smoking (Kumar, O'Malley, & Johnston, 2005; Poulsen et al., 2002), less student respect for school smoking bans (Kumar et al., 2005), and lower student disapproval of smoking (Trinidad et al., 2005). Teachers are required to comply with and enforce school tobacco control policies. Young people perceive there to be a double-standard when teachers who smoke try to impose smoking bans on students. Further, they are likely to be aware of the inconsistency between the

teachers' behaviour, that is smoking, and the tobacco-free education (Crawford, 2001; Darling & Reeder, 2003; Reeder & Glasgow, 2000).

METHOD

Study design

The study was a cross-sectional survey of NZ based teachers carried out between August and November 2008.

Ethics approval was given by the University of Auckland Human Participants Ethics Committee in June 2008 (Reference 2008/Q/027).

Participant selection

Participants were selected from electoral roll data. All registered voters who listed their occupation as "teacher" were eligible. A computer query checked for 'contains "teacher"'. Primary, intermediate and secondary school teachers comprised the target population, although these prefixes were most often not provided.

They were then stratified into subgroups based on ethnicity prior to randomisation to ensure that at least 50% of the study population selected were Māori. The 2006 NZ Census indicates that Māori teaching professionals who smoke are over-represented compared with smoking prevalence amongst teachers from other ethnic groups. Surveying sufficient numbers of Māori teachers was a priority, given the disproportionate tobacco-related harm to Māori.

The list was further stratified by geographic region to enable the over sampling of regions known to have high proportions of people who smoke.

Selection of Non-Māori teachers

The non-Māori sample was selected by general electorate, of which there are 63. The weight given to each electorate was calculated from 2006 NZ Census data, by the percentage of people who smoked in each electorate (with Epsom being the lowest, 9.9%, to Manurewa, 25.5%, the highest) times the number of people within the electorate. Although each General electorate has roughly the same number of electors enrolled (approximately 50,000) there is a discrepancy of plus or minus 5% when the boundaries are redrawn following the 5-yearly (in this case 2006) census. Epsom for example, had 49,737 enrolled electors and Manurewa 48,783. A program was written to randomly select the required number of people from each electorate. Following the initial random selection process, some electors were excluded. This occurred where a) the occupation provided indicated those selected did not teach within educational institutions (e.g. "Yoga Teacher"), or they taught outside the study group of interest (e.g. "Early Childhood Teacher"), or b) the mailing address provided was an overseas address. A second random selection produced substitutes, so that the desired numbers of people were produced for each electorate.

Selection of Māori teachers

A similar approach was used to select Māori. In this case, Māori could be enrolled in either one of the 63 General Electorates or one of seven Māori Electorates. The numbers drawn from each form of representation were first calculated from the ratio of the numbers on the General roll to those on the Māori roll and within that the number in each General and Māori electorate. Again the weight given to each

electorate was calculated on smoking prevalence and the total number within each electorate. The smoking prevalence in the Māori electorates ranged from 36% to 43%, while the number of electors within these electorates ranged between 51,000 and 73,000.

From 64,742 teachers (57,052 non-Māori and 7,690 Māori) on the electoral roll, 2,004 (1,001 non- Māori and 1,003 Māori) were randomly selected. This sample size would give a standard error of proportion for non-Māori of no more than 1.6% and for Māori of no more than 2%.

Recruitment

The study was advertised in a national education gazette that is distributed free to all ECCs, and primary, intermediate and secondary schools in NZ. Three weeks later an "Advance Notice Postcard" was sent to all potential participants directing them to the study website (www.yoursay.org.nz) and inviting them to do the questionnaire online. Invitees who had not submitted an online questionnaire 13 days later were sent a paper copy of the questionnaire (Appendix D), along with a Participant Information Sheet (Appendix E), cover letter and postage-paid return envelope. The first 200 participants who returned a completed questionnaire automatically received either a movie or Warehouse voucher, or a smokefree/auahi kore merchandise pack. All invitees who returned a questionnaire by an allocated date were entered into a draw for an Air NZ Mystery Break. A reminder postcard was mailed 10 days later to non-responders, and a second paper survey and cover letter was sent 12 days later to invitees who had not responded to previous invites.

Teachers who reported that they were current daily smokers were significantly under-represented in the total returned surveys a week after the second paper survey mail-out. To boost recruitment of teachers who smoke, an additional mail-out was conducted. This final mail-out included either a Māori cover letter which was sent to all non-responders who were initially drawn from the Māori Roll or who had a Māori name, or a non-Māori cover letter which was sent to the remaining non-responders. Sending Māori specific cover letters aimed to more sensitively and effectively target Māori. The cover letter was reworded to encourage teachers who smoke, and offered invitees a $10 petrol voucher for returned questionnaires. To coincide with this final mail-out, the study's lead investigator was interviewed about the study on a national radio programme, an email requesting support of the study was sent to the principals of more than 400 schools in areas with proportionally high numbers of non-responders, and articles about the study were published in three Auckland papers and a national education magazine.

Tracking survey returns

A unique Prize Entry Number (PEN) was assigned to each invitee and provided in each mail-out. By matching the PEN of each survey submitted or returned, participants' names were removed from the mailing list as their surveys were received. Invitees whose study postcards/envelopes were returned "Gone Not Known" (GNK) were removed from further mail-outs, as were those participants who we were advised were no longer either residing in NZ or teaching, or who requested to be

removed from the list. The mail-out schedule and return rate is summarised in Appendix F.

Questionnaire development

Other questionnaires were reviewed (Chen & Winder, 1985; Galaif et al., 1996; Glover & McRobbie, 2008; Kumar et al., 2005; Newman, 1971; The GTSS Collaborative Group, 2006; Wold, Torsheim et al., 2004; Wong et al., 2007) for relevant questions and the *Framework for Reducing Smoking Initiation in Aotearoa/New Zealand* (Health Sponsorship Council, 2005) to inform the development of the questionnaire. The questionnaire was developed in consultation with key stakeholders selected for their expertise in particular areas, as well as 12 teachers from a range of professional settings to check on the accuracy and relevance of items from their perspective.

The paper form of the questionnaire was formally piloted on two focus groups to check for comprehension. Once the paper form was finalised, the online version was piloted with specific attention to ensuring the conditional logic would lead participants accurately through the questionnaire based on their responses.

Participants' school details and teaching experience

The questionnaire asked participants about their school and teaching experience, including: the school level at which the participant taught; their current employment status; the number of years they had taught in NZ; the type of school at which they taught, and their school's decile rating.

Due to the sampling method used, it was not possible to exclude educational professionals outside those of interest to the current study. Therefore, the first two questions were designed to filter out those not targeted for this survey, for example, tertiary level lecturers or teachers who had not taught since the SFEAA came into effect.

Teaching level was asked about because it has been found to influence anti-smoking behaviour. Smokefree policies are enforced more by staff of middle schools rather than high schools (Tubman & Vento, 2001). Further, high school teachers, compared to primary school teachers, perceive smoking as more of a disciplinary problem rather than a health issue (Nutbeam, 1987). Smoking prevalence is higher amongst "secondary modern" than "grammar" school staff and students in England (Johnson et al., 1985). Lastly, research has found that smoking is more normative amongst socio-economically deprived communities (MoH, 2001), and compliance with school smokefree policies is lower amongst private than public school staff (Trinidad et al., 2005).

School involvement in health promotion and teacher involvement in smokefree education

Since existing health promotion programmes, such as "Heath Promoting Schools" (HPS) and "Fruit in Schools" (FiS) promote smokefree and therefore could have influenced teachers' attitudes, we asked if teachers were aware that their school had these programmes. We were also interested in the extent to which participants taught about cigarette smoking, and what educational resources they used to do this.

School health promotion activities

HPS and FiS are government funded initiatives. The way in which HPS is implemented in NZ is based on the principles of the Treaty of Waitangi and the Ottawa Charter for Health Promotion (WHO, Health and Welfare Canada, & Canadian Public Health Association, 1986), and focuses on promoting the health and well-being of children and young people. HPS support is available to all schools in NZ and in some regions, ECCs. FiS is a MoH initiative aimed at promoting healthy eating, physical activity, smokefree and sun protection. FiS targets children at primary and intermediate, mainly decile one and two schools.

Teacher involvement in smokefree education: Resources

Participants who indicated they were responsible for teaching tobacco education in any capacity were asked whether they had used any of three smokefree education websites (a picture of the homepage was shown): LungFish, Smokefree schools, and Life Education Trust (LET). Response options were Yes/No/I don't know of it. They were then asked to name any other possible resources they had used, or if they could think of resources that would better help them to teach this topic. These items were inspired by the Global School Personnel Survey (GSPS) (The GTSS Collaborative Group, 2006) and aimed to collect information about teachers' knowledge, use of and need for resources. In NZ, a survey of primary schools conducted in 2004 found that most (90%) schools used external agencies to impart tobacco education (Walker & Darling, 2007).

A further two items asked if the participants' schools had used educational resources developed with funding by a tobacco company, and if they would be less likely to trust such resources. These items aimed to assess respondents' knowledge specifically of British American Tobacco New Zealand's association with LET. This association was ended by LET in 2006 in response to pressure from public and government sources. Participants were further asked whether they thought teacher training should include a section on smoking prevention using a question adapted from the GSPS.

Relative ranking of smoking as a health priority and other smoking-related attitudes

Ranking health concerns

Participants were provided with seven health concerns and asked to rank them in order of seriousness for the age group of children they usually teach. This item was adapted from the Keeping Kids Smokefree (KKS) study (Glover et al., 2009) which directed this item to parents. The concerns (bullying/violence, obesity, marijuana, cigarette smoking, P and other drugs, alcohol and sex) were considered to be distinctively different, particularly with regards to younger children. Along with providing a relatively small number of options (i.e. less than 20), this feature renders ranking as a suitable measurement method (Russell & Gray, 1994).

Smoking-related attitudes

All participants were asked to agree, disagree, or tick 'don't know' in response to nine attitude statements. Two of the statements ("Teachers should be more active in teaching students about smoking" and "Teachers should set a good example to students by not smoking") were adapted from the (school) Staff Role Model Index

(SRMI) developed by Galaif, Sussman and Bundek (1996). These items sought to assess the extent to which participants considered that they were role models of smoking attitudes and behaviour. Similarly, two items "Whether or not a teacher smokes is entirely her/his own business" and "Students are less likely to take education about smoking seriously from a teacher who is a current smoker" were drawn from the Assessment of Smoking History, Knowledge and Attitudes of Nurses in New Zealand (ASH-KAN) (Wong et al., 2007) study. An item drawn from Newman's (1971) study, "Teachers can influence the smoking attitudes and behaviour of students" differentiated between teachers' ability generally to influence students in this context, and the impact of individual teachers smoking behaviour, as assessed in the second item ("Teachers should set a good example to students by not smoking") adapted from the SRMI.

"The price of tobacco products should be increased" and "People should not be allowed to smoke directly outside school/kura/ECC gates" (adapted from the GSPS-(The GTSS Collaborative Group, 2006)), gauged teachers' support for broader tobacco controls. A third item, "People should have to have a license to sell tobacco like they do with alcohol" was also developed to this end. One item assessed participants' knowledge of the tobacco industry's marketing-to-children strategies. Respondents were asked to agree or disagree with a statement: "Flavours are added to cigarettes to make them more attractive to children." This statement was adapted from the GSPS (The GTSS Collaborative Group, 2006) and the ASH-KAN (Wong et al., 2007) surveys. Little more than half (57%) of the nurses surveyed in the ASH-KAN survey were aware that tobacco companies targeted children in this way.

A final item in this set, "Parents, rather than schools, should teach children about smoking" was adapted from the KKS study by inverting "parents" and "schools". This adaptation was intended to elicit data directly comparable with the KKS data, and sought to understand how teachers saw the role of the school in relation to that of families in educating children and young people about smoking.

Smokefree school environments

A set of six questions assessed schools' smokefree environment. One question measured perceived school/ECC compliance with the SFEAA. Five tick box options were offered: "All/Most/Some/None of the time" and "I don't know". Space was provided for free-text responses. Participants were then asked if their school/ECC had suggested a location for staff to go to smoke. If so, participants were asked to specify if this was an on- or off-site location and to describe where the location was. A third item sought to determine whether staff were seen smoking outside but within visible distance of the school/ECC gates during work hours. This question was based on previous research which found implementation of smokefree environments in schools correlated with increased visibility of teachers smoking as reported by students (Griesbach et al., 2002; Wold, Torsheim et al., 2004). Two further items asked if smoking cessation support was offered by the school, and if so to describe what the support was. These items were directly informed by the Guidelines for a Smokefree School (http://www.smokefreeschools.co.nz/docs/SF-AK_Schools_Guidelines_08.pdf) which suggest senior management and school boards actively promote and provide cessation advice and support to school staff who smoke.

Participants' were asked about whom they considered to be responsible for ensuring specific groups (students, staff and parents) did not smoke on school premises.

Response options included “Principal and other senior management,” “Teachers,” “Board of Trustees,” “Auxiliary staff,” “Schools shouldn’t have to be responsible for this” and “Other.” Participants were prompted to select all that apply for each category.

A final item, adapted from the GSPS (The GTSS Collaborative Group, 2006) and from Newman (1971), asked participants if they had ever personally advised a student not to smoke. Response options were “Yes,” “No,” “Not applicable – the students at my school are too young” and “Other.” The third option aimed to ascertain if age of child was a barrier to imparting non-smoking advice.

Smoking behaviour

Fifteen questions asked about participants’ smoking behaviour.

The first four questions measured smoking prevalence and were adapted from the New Zealand Tobacco Use Survey (NZTUS) (MoH, 2006a) and the New Zealand Health Survey (NZHS) (MoH, 2008b). These items enabled identification of smoker types: current smoker - including non-daily smokers; ex smoker - including ex non-daily smokers; and never smokers - including people who have either never smoked cigarettes or who have smoked fewer than 100 cigarettes in their lifetime.

The fifth item measured tobacco dependence using two items from the Fagerström Tolerance Questionnaire (Fagerström & Schneider, 1989). The sixth question measured type of product consumed. The seventh item tested Bandura’s theory of self-efficacy (Bandura, 1977). Self-efficacy is the belief a person holds about their ability to conceive of and carry out the necessary actions to deal successfully with specific situations (Bandura, 1995). Efficacy beliefs considerably impact human motivation in that the actions people take are invariably influenced by their perceptions of how effective they will be (Bandura, 1995; Deci & Ryan, 2002). Simply, people tend to pursue tasks they believe they can succeed at and tend to avoid tasks they believe they will fail in. The self-efficacy item used a seven point Likert scale from 1 (not confident) to 7 (very confident), to assess the extent to which participants who smoked felt they would be successful in stopping smoking if they tried.

Research suggests people who smoke adjust their smoking consumption to adapt to restrictions created by smokefree legislation (National Research Bureau, 1996). Thus, four items questioned where teachers smoked during school hours, and how their smoking behaviour varied between a usual school day and a usual non-school day.

Participants were asked whether they smoked one and five years ago. In the first instance, participants who smoked 12 months ago were asked if they had made any recent quit attempts and if so, what quitting aids and/or services they used. Participants who smoked five years ago were asked what effect, if any, the SFEAA had on their smoking behaviour.

Demographics

Demographic details collected included age, gender, ethnicity and the regional council area in which they resided. A final open-ended question invited participants to comment on any of the question topics or any other smoking-related topic.

Key Variable Definitions

Teacher group classification

Certain questionnaire items were not relevant to early childhood (EC) teachers. For example, ECCs do not have decile ratings so EC teachers are not included in analyses which considers this information. Moreover, EC teachers were not required to provide their ECC classification (for example: state, independent, etc.) and were directed to skip the questions dealing with teaching about cigarette smoking, ranking health concerns, and enforcing smokefree policy on school premises. All questionnaire items were considered to be relevant to primary, intermediate and secondary school teachers. Therefore there were two distinct groups included in the analyses; one group, "All teachers" included EC teachers, and another group, "School teachers" which excluded EC teachers.

Ethnicity

Ethnicity categorisation followed the single response method with Statistics New Zealand's prioritisation standard in which respondents identifying more than one ethnicity are categorised in the following order of priority: NZ Māori, Pacific Island, Asian, Pakeha/NZ European/Other. This method was used throughout except where the sample was compared with data from the 2006 NZ Census in which ethnicity was reported as a multiple response, in line with census reporting (Statistics New Zealand, 2008).

Smoking status

The primary smoking status variable "current smoking" was used throughout for our analyses. This variable combines daily, weekly, monthly, and less than monthly smoking. We used this as the primary smoking status variable regardless of smoking frequency because frequency is likely to be influenced by restrictions imposed by smokefree legislation and changes in the social acceptability of smoking. Moreover, emergent theories of nicotine dependence indicate that "loss of autonomy" over smoking occurs in occasional as well as daily smokers (DiFranza, Riggs, & Pentz, 2008). Where we needed to compare our data with NZ census smoking data we counted only daily smoking as this is the only smoking variable used in the 2006 census (MoH, 2008a).

Teaching level

Teaching level was coded as either EC education, primary, intermediate or secondary. Where participants responded that they taught equally at more than one of these levels, and indicated the levels, primary and secondary were prioritised. The category "other" captured teachers who did not fall within any other grouping. Most commonly these included teachers who did not specify a teaching level but indicated their teaching role: e.g. Resource Teacher: Learning and Behaviour (RTLB), relieving teacher, or they taught Years 0-13 (e.g. an area school). As these teachers all taught in schools rather than ECCs, they were included in the "School teachers" group for analysis purposes, except where otherwise stipulated.

Data analysis

Quantitative analysis

All quantitative data from the online and paper surveys were entered onto an Excel spreadsheet then exported to Stata Version 9.2. (StataCorp, 2006) for statistical analysis.

We used weighted analyses to generate population estimates. The weights were the reciprocal of selection probability which, as noted, was associated with the ethnicity and smoking status of people in the electorate from which participants were selected.

The number of Māori and non-Māori in the study sample, together with the number and proportion in the whole population is shown in Table 1.

Table 1: Number of Māori and non-Māori sample and corresponding number and percentage in the population.

	Observed frequency	Weighted frequency	%
Māori	1,003	7,690	12
Non- Māori	1,001	57,052	88
Total	2,004	64,742	100

Associations between categorical variables were examined using the design-based F test (instead of Chi square test). Test statistics and confidence intervals were adjusted using the method of Rao and Scott (1984).

Weighted logistic regression analysis with linearised/robust variance estimates was used to detect a trend between school decile and perceived school compliance with the SFEAA, suggesting locations for staff to smoke, and perceived visibility of staff smoking.

The design-based F test was used to investigate the association between smoking status and agreement to the attitude statements. As smoking may be associated with school classification (Johnson et al., 1985), and age and ethnicity (MoH, 2009), weighted logistic regression was used to detect whether the association between smoking status and agreement to the statement is influenced by these variables. Analyses were restricted to those who answered agree or disagree to the statements.

Qualitative analysis

Comments that were written on the questionnaire as well as specific responses to the open-ended items were transcribed into a Microsoft Word document. For example, at the end of the smoking-related attitudes and knowledge statements section there was space for participants to write comments. Some participants specified which statement they were commenting on, while others did not. Comments were considered in association with particular statements where this connection was stated (e.g. “Front gates item – Absolutely – it looks SO unprofessional") or otherwise obvious (e.g. “If people are going to smoke outside kura gates it should be promoted to be done discreetly”). Where this was not clear, comments were grouped by common themes.

These data were collated, sorted and reviewed to identify key themes using the general inductive method (Pope, Ziebald, & Mays, 2000; Thomas, 2006). Using a simple cross-clarification matrix we were able to identify new patterns of data that may have otherwise been missed or not immediately obvious during the initial data analysis phase.

RESULTS

Response rate

The response rate was 72% (n=1404) (see Appendix G for calculation).

Data from tertiary level educators and those who provided an invalid teaching category or current teaching status were excluded from the analyses. This left 1322 respondents who were either currently employed as teachers or had taught in NZ schools in the last 5 years.

Seventy surveys were returned without a PEN. As such we were unable to identify the electorates of the respondents of these surveys. As this information was required in order to weight the data to allow for the manner in which the sampling frame was constructed, data from these surveys were removed from all quantitative weighted analyses. Hence, data from 1,252 teachers were included in analyses which considered the total sample (see Table 2).

Table 2. Sample size of each teacher group

Teacher group	Sample size
Primary, intermediate and secondary school teachers	1072
ECC teachers	160
Other school teachers	20
Total	1252

Demographic Characteristics

Demographic characteristics of the respondents (prior to weighting) are described in Table 3. Seventy-nine percent of participating teachers were female, most (86%) were aged between 30-59 years, and the vast majority of participants identified as Māori (40%) or European/other (54%). Smoking status of all respondents, unweighted is shown in table 4.

Table 3: Socio-demographic and teaching characteristics of all respondents (unweighted) (n = 1,322).

		n	%
Gender	Female	1,038	79
	Male	266	20
	Not stated	18	1
Ethnicity*	Māori	534	40
	Pacific peoples	35	3
	Asian	31	2
	European/Other	719	54
	Not stated	3	0.2
Age	<19	5	0.4
	20-29	149	11
	30-39	419	32
	40-49	369	28
	50-59	346	26
	>60	30	2
	Not stated	4	0.3
Residential Region	Northland	71	5
	Auckland	343	26
	Waikato	151	11
	Bay of Plenty	112	9
	Gisborne	23	2
	Hawke's Bay	61	5
	Taranaki	35	3
	Manawatu-Wanganui	83	6
	Wellington	136	10
	West Coast	8	0.6
	Canterbury	145	11
	Otago	59	5
	Southland	32	2
	Tasman	18	1
	Nelson	18	1
	Marlborough	12	0.9
	Area outside region	5	0.4
	Not stated	10	0.8
Teaching category	Early childhood teacher	168	13
	Primary school teacher	544	41
	Intermediate school teacher	146	11
	Secondary school teacher	444	34
	Other	20	2
Teaching status	Currently working as teacher	1,072	81
	Not current but worked as teacher in last 5 years	133	10
	Not stated	117	9

*Ethnicity is reported here as a single response drawing on Statistics New Zealand's prioritisation standard.

Table 4: Smoking status of all respondents (unweighted) (n=1,322)

	n	%
Smoker	116	9
Daily	78	6
Weekly	19	1
Monthly	5	0.4
<Monthly	14	1
Ex-smoker	349	26
Never smoked regularly	831	63
Not stated	26	2

Table 5 shows the characteristics of primary, intermediate and secondary school teacher participants compared with the 2006 NZ census**.** Our sample had a relatively higher proportion of intermediate school teachers and fewer teachers who reported they were daily smokers.

As seen in Figure 1, the distribution of regional council areas where participants lived reflects that of teachers overall in NZ, although a lower proportion of survey participants came from the Auckland Regional Council.

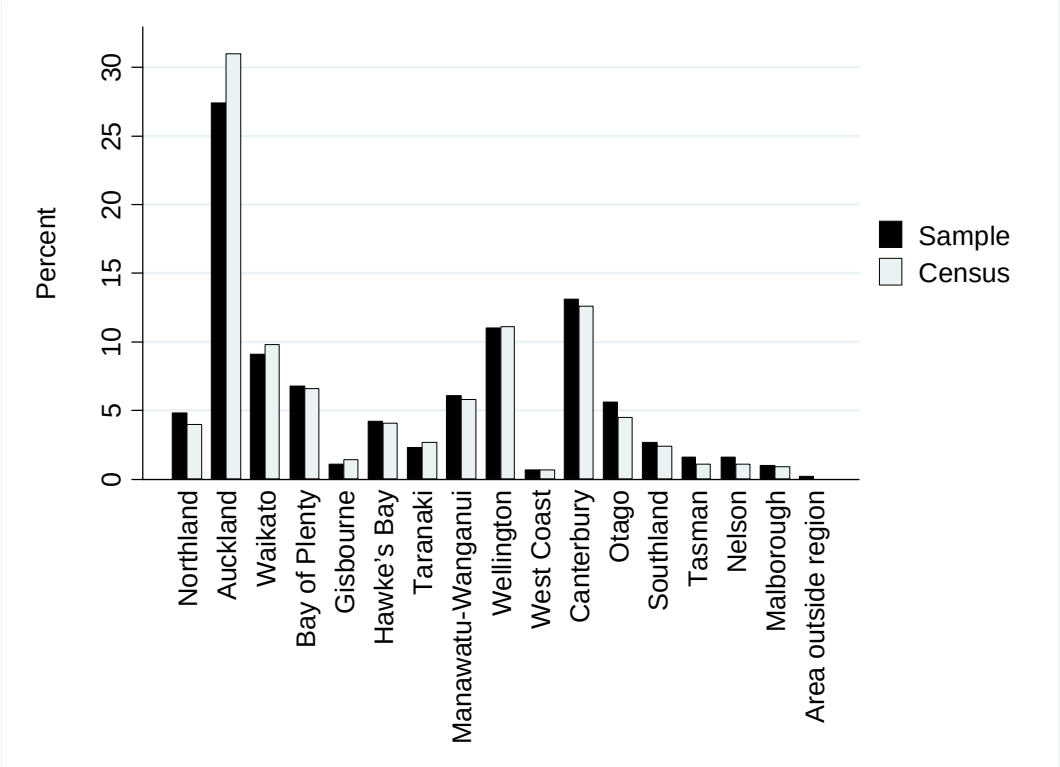

Figure 1: Residential regional council area of respondents compared with all teachers in New Zealand (weighted %)

Table 5: Characteristics of primary, intermediate and secondary school teacher respondents as weighted percentages of the total population of these groups in New Zealand (2006 census) (n=1,072)

		Sample %	Census %
Ethnicity*	Māori	10	10
	Pacific peoples	2	3
	Asian	3	4
	European/ others	91	91
	Not stated	0.2	0.4
Teaching Category	Primary School Teacher	47	55
	Intermediate School Teacher	12	3
	Secondary School Teacher	41	42
Residential Region	Northland	5	4
	Auckland	27	31
	Waikato	9	10
	Bay of Plenty	7	7
	Gisborne	1	1
	Hawke's Bay	4	4
	Taranaki	2	3
	Manawatu-Wanganui	6	6
	Wellington	11	11
	West Coast	1	1
	Canterbury	13	13
	Otago	6	5
	Southland	3	2
	Tasman	2	1
	Nelson	2	1
	Marlborough	1	1
	Area outside region	0.2	0
	Not stated	1	0
Smoking Status†	Daily smokers	4	8

* For purposes of comparison with the census data respondents could select more than one ethnicity.
† Due to different measures, "daily smoking" is the only Census smoking status comparable with that of the TASS questionnaire.

School classification and decile rating

Primary, intermediate and secondary school teachers were asked about their school classification and decile rating (Appendix H). Teachers who taught at decile nine and ten schools tended to teach at private school teachers while teachers who taught at decile one and two decile schools tended to be kura kaupapa Māori teachers (Figure 2).

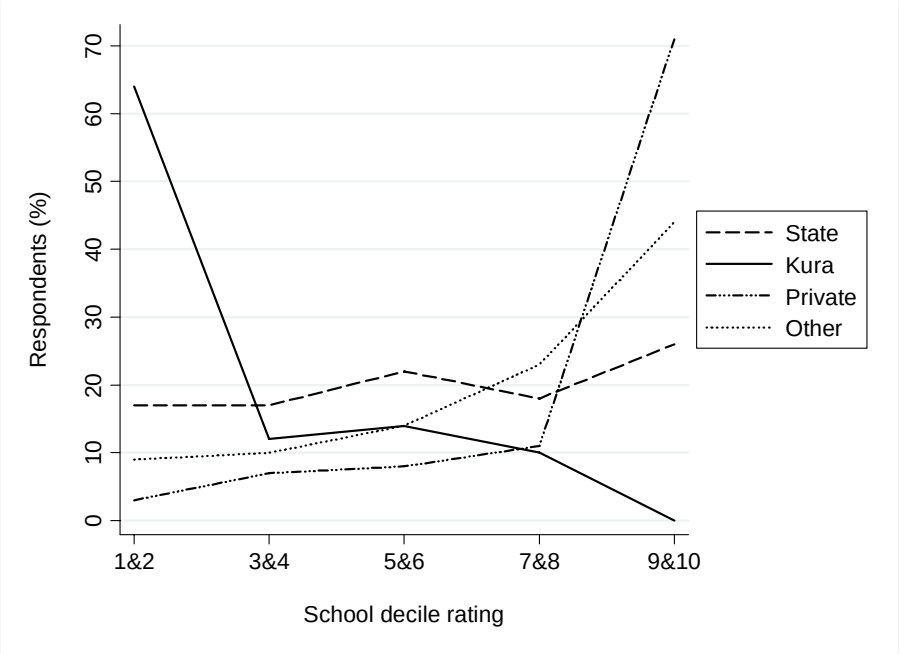

Figure 2: Distribution of teachers by school classification and school decile (weighted %)

Of the 79 participants who provided additional information about the classification of their school, 66 stated that they taught at integrated schools, six specified that they taught at institutions which provided education exclusively to children and young people with special needs, two at Area schools and two at mainstream schools with Reo Rumaki classes. Three teachers specified that they taught respectively at a health school, a Rudolf Steiner school, and a correspondence school.

Teachers' smoking status and behaviour

Smoking status

Most participants (68%) were never smokers, one quarter were ex-smokers and only seven percent were current smokers (including those who smoked daily and less than daily) (Table 6).

Table 6: Teachers' smoking status (n=1,228)

Smoking status	Observed frequency	Weighted frequency	%
Daily	74	1,858	5
Weekly	19	662	2
<Weekly	17	412	1
Current smoker	110	2,933	7
Ex-smoker	336	10,224	25
Never smoker	782	27,423	68
Total	1,228	40,581	100

Smoking by ethnic group

Smoking status varied significantly by ethnicity (see Table 7; see Appendix I for detailed table). A higher proportion of Māori and Pacific Island teachers identified as current smokers than teachers from the European/Other group (7%). One third of Māori teachers were ex-smokers. Asian teachers were overwhelmingly never smokers, whereas only half the Māori teachers were amongst this group. The difference was statistically significant (Design-based F (4.01, 276.69) =4.3502, P=.002).

Table 7: Teachers' smoking status by ethnicity (weighted %) (n=1,227)

Ethnicity	Current smoker %	Ex-smoker %	Never smoker %	Total %
Māori	12	33	55	100
Pacific peoples	12	14	74	100
Asian	0	4	96	100
European/Other	7	26	67	100
Total	7	25	68	100

Smoking by age and sex

Smoking status did not vary by age or sex (data not shown).

Smoking by teaching level

More EC teachers were current smokers (13%) than teachers of any other teaching level (Table 8), however this level of difference did not reach significance (Design-based F (6.49, 447.92) = 1.3382, P = 0.23).

Table 8: Teachers' smoking status by teaching level (weighted %) (n=1,228)

Teaching level	Current smoker %	Ex-smoker %	Never smoker %	Total %
EC	13	20	67	100
Primary	4	26	70	100
Intermediate	6	26	68	100
Secondary	9	26	66	100
Other	9	28	63	100
Total	7	25	68	100

Smoking by school decile

A higher proportion of school teachers from decile one and two schools (11%) smoked compared with teachers from decile nine and ten schools (5%) but this difference was not statistically significant (Design-based F (6.58, 453.73) = 1.5053, P = 0.17) (see Table 9). Inversely, more teachers from decile nine and ten schools (76%) were never smokers compared with teachers from decile one and two schools (62%).

Table 9: School teachers' smoking status by school decile (weighted %) (n=895)

School decile	Current smoker %	Ex-smoker %	Never smoker %	Total %
1 & 2	11	27	62	100
3 & 4	5	34	61	100
5 & 6	5	23	71	100
7 & 8	8	29	63	100
9 & 10	5	19	76	100
Total	7	25	68	100

Smoking behaviour of teachers who smoke

Only 63% of the current smokers reported being daily smokers (Table 10). One third of the teachers, who smoked, used roll-your-own (RYO) cigarettes either exclusively (27%) or as well as factory made cigarettes (6%). More than half the teachers (54%) who smoked daily were highly dependent smokers (they smoked their first cigarette within half an hour of waking). Eight percent smoked within the first five minutes of waking suggesting very high nicotine dependency. Most teachers who smoked daily were 'light' smokers, consuming on average ten or fewer cigarettes per day.

Table 10: Smoking-related behaviour (weighted %)

	%
Frequency with which current smokers smoke (n=110)	
Daily	63
Weekly	23
Monthly	4
<Monthly	10
Total	100
Type of cigarette smoked (n=107)	
RYO	27
Factory	66
Both	6
Total	100
Time from waking to first cigarette smoked (TTF) (Daily smokers only) (n=74)	
within 5 min	8
6-30 min	46
31-60 min	24
after 60min	22
Total	100
Number of cigarettes smoked daily (CPD) (Daily smokers only) (n=74)	
≤10	63
11-20	36
21-30	2
Total	100

Smoking during work hours

Thirty-eight percent of current smokers indicated they smoked during school hours (Table 11). More than half (23/45) said they smoked more than ten metres from the school/ECC gates, 17 smoked outside the school/ECC but within ten metres of the gates, while two teachers smoked on school/ECC premises (Table 12). Seven teachers provided further details of where they smoked: four went to private houses, two went "*around the block*," while another stated they went "*a kilometre outside the school signs.*"

Table 11: Do teachers smoke during work hours (weighted %) (n=108)

	%
Yes	38
No	61
N/A (not currently teaching)	1
Total	100

Table 12: Where teachers smoke during work hours (unweighted frequency) (n=45)

	Frequency*
On school premises	2
Outside school but within 10 metres of gates	17
>10 metres from gates	23
Other	5
Total	47

*Response options were distinct, and multiple responses allowed

Teachers, who smoked, on average reported that their smoking pattern differed between a usual work day and a usual non-work day. On work days they smoked fewer cigarettes and smoking was less regular across the day with evidence of 'binge' smoking later in the day once work was over. Figure 3 shows the total number of reported cigarettes smoked per hour across a usual 24 hour work day versus a usual non-work day.

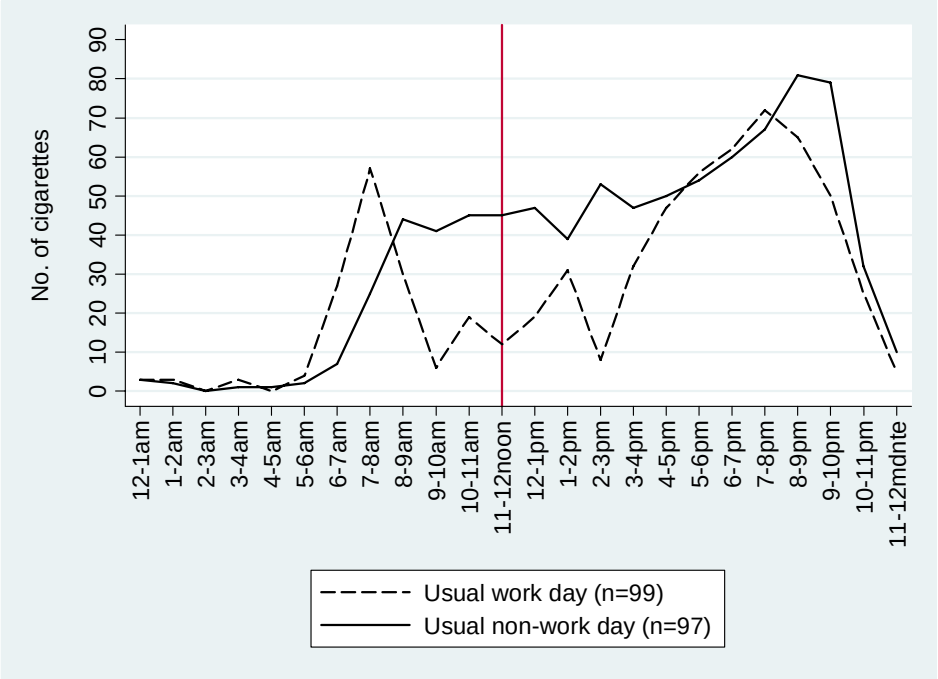

Figure 3: Smoking pattern on a usual work day compared with a usual non-work day (unweighted frequency)

Cessation behaviour

Smoking behaviour currently, and one and five years ago

Amongst teachers who provided data on their current smoking status, and their smoking status one and five years ago, 15% were current smokers compared with 19% one year ago and 27% five years ago. "Current smoking" includes daily, weekly, and less than weekly smoking. The prevalence of current smoking is considerably higher than the overall current smoking prevalence reported earlier because only teachers who had provided data for all three time points were included in the analysis. Missing data were excluded and the denominator was dramatically reduced. Smoking

prevalence at the two other time points was calculated using the same denominator, and is therefore relative. One "Never smoker" reported he/she smoked one year ago and six reported they smoked five years ago. As this is conflicting information, we removed the smoking status data for these participants from this analysis.

Two percent had started or resumed smoking in the last year while six percent has stopped during this period (See Figure 4, and for details of calculations see Appendix J).

Attempts to stop smoking

Amongst teachers who reported that they smoked one year ago, 67% had tried to stop smoking. About a third (32%) of that 67% did stop smoking (See Appendix K for details). Of the teachers who smoked one year ago and still identified as current smokers, more than half (53%) had tried to stop smoking in the last 12 months.

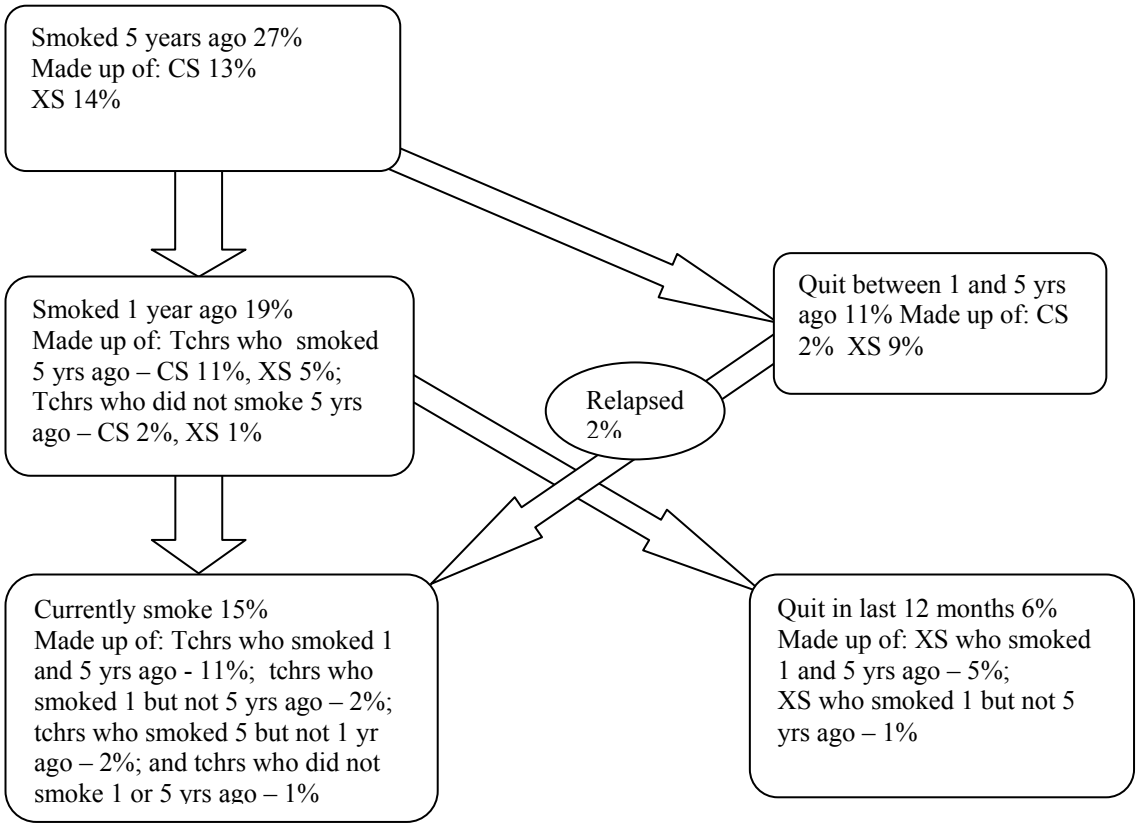

Figure 4: Teachers' smoking behaviour currently, one and five years ago as a percentage of the overall sample (weighted %)

Self-efficacy for stopping smoking

Over half (67%) the teachers who smoked scored 4 or higher (Mean = 4.2 (95% CI 3.64, 4.8)) on the self-efficacy scale for stopping smoking, where 1 is low perceived self-efficacy and 7 is high perceived self-efficacy (Table 13).

Table 13: Perceived self-efficacy for stopping smoking (weighted %) (n=95)

Perceived self-efficacy	%
1	11
2	10
3	12
4	18
5	28
6	8
7	13
Total	100

Cessation aids used in the past year

Quitline, using NRT and 'cold turkey' were the three most popular cessation methods (Table 14). The "other" cessation methods included information from books (4), of which, three specified Alan Carr's *"Easy Way"* book.

Table 14: Cessation methods used in the past 12 months (unweighted frequency) (n=74)

	Frequency
Called the Quitline 0800 778 778	31
Used NRT	24
Cold Turkey	22
Got help from the doctors	13
Attended a stop smoking programme	7
Visited online stop smoking website	6
Other	13
Total	116

*Response options were distinct, and multiple responses allowed. Teachers selected on average one or two responses each.

Changes to smoking behaviour in response to the SFEAA

Fifty-one participants said they changed when they smoked in response to the SFEAA (Table 15). An almost equal number (n=48) made no change to their smoking behaviour. Of the people who had made changes, 37 participants said they cut down, 18 tried to quit and 13 stopped smoking.

Table 15: Changes made to smoking behaviour when SFEAA implemented (unweighted frequency) (n=148)

	Frequency*
I changed when I smoked (e.g. smoking more before and after work)	51
I made no change to my smoking	48
I cut down the amount I smoked	37
I made other changes	31
I tried to stop smoking	18
I stopped smoking	13
I changed from factory made cigarettes to loose tobacco	7
I used nicotine replacement therapy	2
Total	207

*Response options were distinct, and multiple responses allowed. Teachers selected on average one or two responses each.

Of the 31 participants who selected "other changes" 29 provided comments regarding the changes to their smoking behaviour since the amended smokefree law was implemented. Nineteen teachers commented that the change was when or where they smoked. For example, participants had not smoked at school prior to the smokefree law change, or that they smoked outside of work hours, for example, only at home or "*more at night and at weekends*".

Three teachers changed their smoking behaviour, but because of pregnancy not the SFEAA. One participant asserted that although they smoked on the school grounds they were "*definitely out of sight of students and… staff.*" One teacher who only "*smoked occasionally*" expressed that she "*just got sick of it and stopped completely*," while another stated she simply "*just didn't bother taking [her] ciggies to work*."

Three teachers referred to a heightened awareness of their smoking in relation to others. For example, one wrote:

"I was more aware of the company in which I smoke; especially children and older people."

Teachers as role models

Teachers attitudes regarding their role as models

A majority of respondents agreed that "teachers can influence the smoking attitudes and behaviour of students" (88%) and that they should "set a good example to students by not smoking" (79%) (Table 16). In line with these beliefs more than two-thirds of respondents believed that students would be "less likely to take education about smoking seriously from a teacher who is a current smoker" (78%). Contrary with this set of beliefs two-thirds of respondents thought that "whether or not a teacher smokes is entirely his/her own business" (67%).

Table 16: Teachers' perceptions of their role as models of smoking behaviour and attitudes (weighted %)

	Agree %	Disagree %	Don't know %
Teachers can influence the smoking attitudes and behaviour of students (n =1,235)	88	8	4
Teachers should set a good example to students by not smoking (n =1,231)	79	16	6
Students are less likely to take education about smoking seriously from a teacher who is a current smoker (n =1,239)	78	14	8
Whether or not a teacher smokes is entirely her/his own business (n =1,230)	67	28	5

Current smokers were less likely than ex- and never smokers to agree that "Teachers should set a good example to students by not smoking" and "Students are less likely to take education about smoking seriously from a teacher who is a current smoker," (Table 17). They were more likely to agree that "Whether or not a teacher smokes is entirely his/her own business" than ex- and never smokers.

In general, agreement to the statements by ex-smokers fell between the current and never-smokers. Logistic regression analyses indicated that the association between smoking status and agreement to the statements was not influenced by school classification, age and ethnicity.

Table 17: Teachers' agreement with role model statements by smoking status (weighted %)

	% Agree [95% CI]			
	Current smokers	Ex-smokers	Never smokers	P value*
Teachers can influence smoking attitudes and behaviour (n= 944)	87 [71,95]	92 [85,96]	92 [89, 94]	0.69
Teachers should set a good example to students by not smoking (n =925)	55 [36,73]	79 [71,85]	88 [84,91]	<0.0001
Students are less likely to take education about smoking seriously from a teacher who is a current smoker (n=916)	64 [49,76]	82 [74,87]	87 [84,90]	0.0003
Whether or not a teacher smokes is entirely her/his own business (n=948)	91 [73,97]	76 [68,82]	67 [62,71]	0.008

*P value resulted from Design- based F statistic from Stata

"Teachers can influence the smoking attitudes and behaviour of students."

Eight percent of respondents (Table 16) did not agree that teachers can influence the smoking attitudes and behaviours of students. For example they thought that it depended on the age of children being taught. One participant wrote:

> *Not at preschool level, teachers can't influence preschoolers; older children - yes. Children "look up" to their teachers.*

Another participant wrote:

> *If teachers have such an influence on students copying them e.g. smoking, then every child should also get a degree, abide by the law and be responsible parents.*

Conversely, one participant wrote that *"teachers who smoke could have a great influence as far as why not to start smoking."*

Another teacher added that *"It's not the only influence."* Another, in support of the statement, qualified this support:

> *Children will only be influenced by teachers if they already believe what is being said.*

Acknowledging the capacity of teachers to influence students a respondent thought that:

> *Because of their direct influence on children, smoking teachers should be targeted more closely with material intended to wean them off cigarettes.*

"Teachers should set a good example to students by not smoking."

Nineteen comments were related to this statement. Eleven respondents who agreed with the statement added that teachers should not smoke in view of students or at school. One teacher wrote:

> *Teachers should set a good example by not smoking in view of students at school.*

Of the remaining seven teachers who commented and who agreed with the statement, one wrote:

> *Teachers should ideally set a good example, but this is clearly NOT realistic.*

Another evoked the teachers' prerogative:

> *...in their private lives it's their own business if they do or not.*

Just one comment was in disagreement with the statement. The participant thought that teachers who smoked set a particular kind of example:

> *Teachers who smoke are an example to students that cigarette smoking is uncool and highly addictive.*

"Students are less likely to take education about smoking seriously from a teacher who is a current smoker."

Fourteen participants provided free text comments on why they thought teachers could effectively teach about smoking. Most of these expressed that a teacher who currently smokes would be *more* qualified than others to effectively deliver an anti-message.

> *A teacher who smokes who can communicate the struggle with smoking may be more effective than one who has never smoked.*
>
> *Being able to speak to teens about the issue from the point of view of an ex-smoker or a current one who is unable to stop is more effective than listening to someone who does not understand the addiction. More real.*

One teacher wrote that students do not necessarily know the smoking status of their teachers:

> *It's about teaching the RIGHT way and keeping personal bad habits away from work life and not making it common knowledge.*

Four participants thought that ex-smokers specifically were best positioned to teach about smoking. One wrote for example:

> *As an ex-smoker I felt I made a bigger influence than fellow teachers who still smoked even though they did so away from students.*

Several comments indicated that whether or not teachers who smoked could effectively teach about smoking depended on other variables. These variables included whether *"students know that the teacher smokes,*" *"if the teacher really wants to give up smoking but cannot,"* and *"how the teacher approaches it".*

Three teachers noted that children would be aware of the hypocrisy of a teacher who smokes teaching about smoking and this would render the smokefree education ineffective.

Children notice what we do rather than what we say so they are not going to take notice of smoking adults who preach.

A further three comments were made conveying agreement with the statement, suggesting that this consistency between personal and professional practice should extend to other areas of teaching.

I don't think they should be teaching in the health area as an obese teacher shouldn't be teaching health or P E.

One respondent noted that employing purpose trained educators would nullify this issue:

I think trained health educators should be employed to educate on smoking related issues - people from outside the school environment, then whether the teacher smokes or not is irrelevant.

"Whether or not a teacher smokes is entirely his/her own business"

Quite a few (44) comments were made in relation to this statement. The comments unanimously supported the statement but many respondents qualified this support. For example, in 22 cases comments were made that smoking should however, not be in view of students.

If a teacher chooses to smoke - it is entirely their own business but I don't feel they should smoke at school (even if hidden!)

Several other participants acknowledged that although teachers are role models to their students, smoking is a matter of personal choice.

Teachers are role models to their students, however in their own private lives they should be able to smoke if they choose to do so.

A number of comments simply emphasised the distinction between a teacher's private and professional life and the belief that *"teachers should be allowed to have a private life."*

Teachers as role models

The four preceding attitude statements concerned the concept of "teachers as role models." Several participants made specific reference to this concept in their comments. Of these, some were very general references:

Staff are huge role models.

Some were mindful that despite being role models, teachers were *"also people."* Others made reference specifically to smoking and/or health behaviours, and the need to model positive behaviours.

Teachers should always put the student first and forget about their smoking habits or they shouldn't be teaching.

Two participants noted that teachers' potential as role models was conditional. One noted that this potential *"depended on levels of respect students have for their teachers"* while another stated a teacher's capacity to influence their students' smoking behaviour depended on *"if students see teachers as role models."* A further

two respondents considered parents to be the best or at least as important role models, while one participant asserted:

> *We are not role models – they don't want to be like us!*

Not in front of the children

There were 42 references to teachers not smoking at school and/or in front of students. As noted, most of these were qualifying comments, appended to feedback to the "Whether or not a teacher smokes is entirely his/her own business," "Teachers should set a good example to students by not smoking" and "Students are less likely to take education about smoking seriously from a teacher who is a current smoker," statements. Over and above these, several respondents wrote general comments asserting a smokefree stance, for example:

> *Teachers should not smoke anywhere at school.*

Peer and non-parent influence

Eight respondents referenced the role of peers and non-parents in student smoking. Of these, most thought that peers had the greatest influence over whether or not students smoked.

> *I have found that the most influential roles models for children and teenagers are their peers. Therefore I don't think teachers have a huge impact.*

Others expressed that the role of peers and wider family members contributed significantly to student smoking.

> *It has a lot to do with family/whanāu and the attitudes of the extended family as well as peer pressure.*

Student smoking is outside of teachers' control

A small number (8) of extra comments expressed that teachers could not take responsibility for students' smoking behaviour. Four of these referred to students making a choice to smoke:

> *Despite what happens people make their own choices. Every individual is responsible for their own actions.*

Three comments expressed a sense of inevitability.

> *What chance do we have as teachers of stopping kids smoking?*
>
> *Nothing is preventable.*
>
> *Smoking is so set in students' behaviour.*

The final comment suggested other influences overrode a teacher's best intentions:

> *Teachers can inform children about the hazards of smoking but when they are put in a different environment where some things are prevalent it's hard to force change.*

Teachers' smoking status not known

A few (5) respondents thought a teachers' was not necessarily known to students or colleagues:

> *A teacher can be a smoker without the children knowing.*

Support for teachers who smoke

Four teachers wrote supportive comments about reinstating an on-site smoking space for school staff to restore the dignity of teachers who smoke and prevent them from modelling smoking behaviour at the school gate.

> *Smokers should not be discriminated because of society's influences. I agree that teachers should not smoke outside the gate. They should be given an on school grounds space where they are not seen but still feel like an adult and not like a teenager.*

General attitude statements and comments

Some statements (13) expressed strongly anti-smoking/pro-smokefree sentiments. These ranged from support for banning smoking to suggestions of *"raising the age of buying cigarettes"* and *"taking all cigarettes off the shelf out of sight."*

> *Smoking should be banned altogether. Make it law. Advantages to this are enormous.*

Eight teachers commented generally on their own non-smoking status, and/or on that of their school. Of these some felt that this rendered some of the smokefree issues raised by the survey irrelevant. One teacher wrote, for example:

> *Smoking has not been an issue at my school - if it became evident that it was I would be more proactive about educating students about the risks. None of the staff smoke & few parents do - ours is a smokefree school.*

For one teacher, their status as a smoker drove their conviction to prevent students from smoking.

> *I have smoked since I was nine. I am very adamant I will try to change this scenario for the children I teach.*

There were three general statements about the capacity of television, advertising and/or films to either promote smoking or influence smokefree behaviour.

> *There should be no smoking in TV programmes supported by state broadcasting funds.*
>
> *Other forms of promotion for ceasing smoking are effective e.g. TV ads are great. Cultural connections are more powerful. The ads do this well.*

Two participants thought there should be a stronger punitive response to underage smoking: there should be "*Strong and meaningful consequences enforced in the school rules if students are caught smoking on school grounds*" and "*Fines i.e a consequence other than just the health risk to under 18 year old smokers that are caught*." An additional comment suggested a need for greater support from school management to enforce the smokefree law.

Management needs to be proactive in removing student smoking areas in schools rather than ignoring & not supporting staff.

One teacher generally felt that "*the more people who don't smoke the less likely young people will take up smoking*," while another thought that:

All tax revenue obtained by the govt should be ring fenced for education/treatment of smoking related issues.

Teachers support for strengthening the SFEAA and other smokefree-related policies

Most teachers agreed that "people should not be allowed to smoke directly outside school/kura/early childhood centre gates" (81%) (Table 18). On tobacco control policy questions, more than two-thirds of respondents agreed that retailers of tobacco products should have to have a license to sell tobacco (76%) and just under two-thirds agreed that the price of tobacco products should be increased (62%). More than half (55%) reported that they did not know if flavours were added to cigarettes to make them more attractive to children.

Current smokers were less likely than ex- and never smokers to agree that the price of tobacco products should be increased, and that people should have to have a license to sell tobacco like they do with alcohol than ex- and never smokers (Table 19). Logistic regression analyses indicated that the association between smoking status and agreement to the statements was not influenced by school classification, age and ethnicity.

Table 18: Teachers' support for strengthened smoking-related policies (weighted %)

	Agree %	Disagree %	Don't know %
People should not be allowed to smoke directly outside school/kura/ early childhood centre gates (n =1,244)	81	16	3
The price of tobacco products should be increased (n =1,239)	62	21	17
People should have to have a license to sell tobacco like they do with alcohol (n =1,237)	76	15	9
Flavours are added to cigarettes to make them more attractive to children (n =1,238)	19	26	55

Table 19: Teachers' support for strengthened smoking-related policies by smoking status (weighted %)

	% Agree [95% CI]			
	Current smokers	Ex-smokers	Never smokers	P value*
People should not be allowed to smoke directly outside school/kura/ early childhood centre gates (n=961)	74 [57,86]	81 [74,87]	85 [81,89]	0.16
The price of tobacco products should be increased (n=825)	12 [4,31]	70 [61,77]	85 [81,89]	<0.0001
People should have to have a license to sell tobacco like they do with alcohol (n=902)	54 [38,69]	82 [74,87]	86 [82,90]	<0.0001
Flavours are added to cigarettes to make them more attractive to children (n=476)	28 [14,49]	41 [30,52]	47 [41,54]	0.17

*P value resulted from Design- based F statistic from Stata

"People should not be allowed to smoke directly outside school/kura/early childhood centre gates."

Several comments were added to the questionnaire regarding this statement. Two expressed strong agreement, and a further two noted that smoking outside the gates was outside of the schools control. Other comments suggested agreement with the statement only *"during school hours and picking-dropping time",* acceptance of smoking outside the front gates with the proviso *"it should be promoted to be done discretely,"* and finally a concern that disallowing this might "*'put off"* parents coming to school."

"The price of tobacco products should be increased"

Fourteen participants provided comments indicating that they did not agree with increasing the price of tobacco. They explained that price increases would unfavourably impact on the families and children of those who smoked.

> *Raising the price does not necessarily deter smokers; it just means there is less money in the home for other things.*

Three participants suggested that any increases should result in the "*extra money*" being put back into schools, health, or communities. Two teachers thought that price increases would "*encourage more theft*," while one participant who agreed the price of tobacco products should increase stated it should "*be increased by 10 times its current price.*"

"Flavours are added to cigarettes to make them more attractive to children."

A small number of respondents wrote comments referring to the above statement. These largely expressed disbelief.

One participant who was aware of such a practice stated:

> *Flavoured tobacco should be banned outright. This is a criminal practice in my opinion.*

Smoking-related attitudes and knowledge by school decile

We analysed teachers' smoking-related attitudes by the decile of the school at which they taught, and found no difference between groups (data not provided).

Smokefree school environments

This section presents the results from questions about school/ECC's compliance with the SFEAA; responsibility for ensuring a smokefree school environment; if a location had been suggested for staff members who smoke; the visibility of staff smoking, and cessation support for staff who smoke.

Perceived school compliance with SFEAA

Most (89%) school/ECC environments were believed to be smokefree all or most of the time (Table 20). About 6% were perceived to be smokefree just some or none of the time. Ten percent of secondary school teachers reported that their schools were only compliant some or none of the time. More teachers from decile one and two schools (10%) compared with teachers from decile nine and ten schools (1%) said their school/ECC was compliant some or none of the time.

Table 20: School/ECC compliance with SFEAA by teaching level, school/ECC classification and residential region, and school decile rating (weighted %)

	All of the time %	Most of the time %	Some of the time %	None of the time %	DK %	Total %
Teaching level (n=1,237)						
ECE	79	16	3	1	1	100
Primary	70	22	4	0	5	100
Intermediate	65	25	5	0	6	100
Secondary	51	34	7	3	5	100
Other	85	2	12	0	1	100
Total	64	25	5	1	4	100
School classification (n=981)*						
State	60	29	6	2	3	100
Kura	71	11	5	0	13	100
Private	78	13	0	0	10	100
Other	72	25	0	1	1	100
Total	63	27	5	1	4	100
School decile (n=903)*						
1 & 2	49	35	6	4	6	100
3 & 4	58	29	8	3	2	100
5 & 6	61	27	8	1	3	100
7 & 8	65	28	4	2	1	100
9 & 10	74	21	1	0	4	100
Total	63	27	5	2	3	100
Residential region (n=1,229)†						
Northland	59	26	7	3	6	100
Auckland	66	26	3	1	4	100
Waikato	67	22	9	0	2	100
Bay of Plenty	59	28	10	2	2	100
Gisborne	76	7	10	0	7	100
Hawke's Bay	63	31	0	0	7	100
Taranaki	65	34	2	0	0	100
Manawatu	60	29	5	3	4	100
Wellington	56	27	7	4	6	100
West Coast	98	2	0	0	0	100
Canterbury	71	18	6	0	5	100
Otago	68	24	2	0	6	100
Southland	69	25	5	0	0	100
Tasman	39	46	0	8	8	100
Nelson	54	31	0	0	15	100
Marlborough	87	13	0	0	0	100
Area outside	49	36	0	0	15	100
Total	64	25	5	1	4	100

*Excludes EC teachers

†There were more than 100 responses from teachers from Auckland, Waikato, Bay of Plenty, Wellington and Canterbury. Fewer than twenty teachers each responded from the West Coast, Tasman, Nelson, Marlborough, and the Area outside other regions.

Three-hundred and ninety-seven participants added explanatory text as to their school's compliance with the smokefree law.

Of these, twenty-four participants made comments relating to their school's general compliance with the SFEAA.

> *Smokefree means just that!*

Several of these comments referred specifically to compliance during school hours.

> *There is definitely no smoking on or around the grounds during school time.*

Twenty-seven participants highlighted ways in which the smokefree law has been actively enforced either personally or by the school. Many comments referred to enforcing the law to parents, students, workers and visitors. In a case involving staff smoking, a Board of Trustees issued a formal warning.

> *Have asked the odd parent (e.g. @ rugby) to desist and move out of grounds.*
>
> *Still find students around school boundaries sneaking a smoke – dealt with quickly and effectively.*
>
> *Sometimes workers (e.g. construction) smoke on site but they quickly get asked to go outside the gate.*
>
> *Absolutely no-one on the staff smokes and we are proactive at discouraging smoking if visitors come to our school for social events. We have big signs up around the school saying we are a smokefree environment.*

Seventy-two comments related to the uncertainty about what occurred on the school premises outside of school hours.

> *I can't speak for what happens on the weekends as I don't know.*

We found a correlation in the proportion (odds/risk) of perceived lack of compliance with the SFEAA and school decile rating. The proportion of teachers who perceived a lack of compliance was bigger for the lower decile (1-4) than high decile schools ($p<0.0001$) (Figure 5).

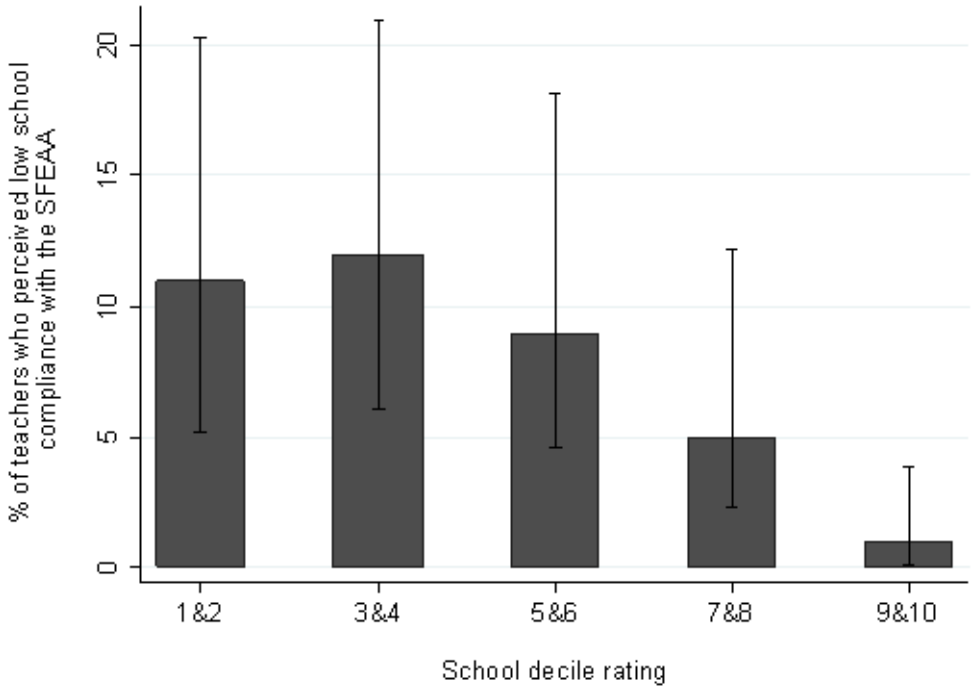

Figure 5: Perceived compliance with the SFEAA by school decile (weighted %)

Students' compliance with the SFEAA

More than one hundred participants (n=112), most of whom were secondary school teachers, commented on breaches of the smokefree law by students. There were more comments about students violating the law than other teachers, parents/whānau or others. These generally involved the location where students smoked, or when the students smoked.

> *Kids smoke in the toilets, on the field etc.*
>
> *Some students smoke during interval and lunchtimes.*

A small number of teachers commented on student smoking which occurred specifically outside of school hours.

> *[Students] come into the school grounds before and after school smoking.*

Thirteen teachers referred to the difficulty in policing students smoking.

> *Far too many students smoking – little senior management support for staff who want to police 'smoking areas'.*
>
> *We (staff) have a constant battle policing this during interval and lunchtimes!*

Teachers' compliance with the SFEAA

Forty-seven participants said teachers smoked on school premises during school hours. For example, teachers smoked "*in their cars,*" "*out of sight*" or in places like "*the caretakers shed.*" Some teachers smoked in "*designated*" or "*dedicated*" onsite

smoking areas. Four respondents specified that the breaches were by *"teacher aides,"* and/or *"relievers."*

There were nine comments related to teachers smoking onsite but when students were no longer on the school premises.

> *After school, teachers have been known to smoke outside of classrooms.*

Sixteen participants stated that staff members smoked off site. Most of these comments concerned teachers smoking *"just outside the school gate*."

Parents' and whānau compliance with the SFEAA

Ten teachers said parents/whānau smoked on school premises during school hours. Most of these comments related to parent/whānau smoking in the carpark, or smoking while walking through the school grounds to pick up their children at the end of the school day. An additional 19 comments concerned parents/whānau smoking onsite outside of school hours. Of these, ten, mostly secondary school teachers, specified that parents/whānau smoking occurred at school sports events, and nine comments referred to "*school functions*" or non-specified events.

> *Parents/caregivers…don't think that [smokefree] applies outside of normal school hours.*

As in the case of teachers' smoking, several comments referred to parents/whānau smoking outside the school boundaries but within close proximity of the gates.

> *Sometimes parents smoke outside pick-up areas.*

Six participants referred to parents/whānau smoking but did not specify whether this was on or offsite, and/or during or after school hours.

> *Parents will often ignore the smokefree rule.*

<u>Others' compliance with SFEAA</u>

Non-teaching adults employed to work on the school grounds were mentioned by 8% of teachers (n=31) as breaching the SFEAA. The school caretaker was named as non-compliant in eleven cases.

> *Our caretaker smokes in his shed on school grounds – away from the school area.*

Workmen or trades people were mentioned in twelve cases.

> *We have currently had building contractors in to build classes who smoked in the school grounds.*

Cleaners were named by eight teachers as smoking onsite, or offsite but within close proximity of the school boundary.

> *The cleaners smoke on premises at times after school hours.*
>
> *I think the cleaners do [smoke] occasionally. Mostly go across the road, but if it's raining I don't think they would.*

Twenty participants mentioned non-compliance with the SFEAA in the context of outside/community people/groups smoking while using the school premises after hours for functions or other unspecified events.

When used by outside groups/ weekends there are some instances of smoking in the grounds.

Seventeen comments from mostly secondary school teachers cited non-parent sports spectators who smoked. At least half of these breaches occurred outside school hours, although it was unclear if these were school or non-school sports events.

Weekend sports spectators do smoke on grounds.

The remaining comments in this sub-category did not specify when the sports events took place, for example:

Some sports spectators smoke on site.

A further thirty-four comments concerned smoking by unspecified others who were on the school premises after hours for unspecified reasons.

There is often evidence that smoking has taken place in the grounds some evenings and often over the weekend with empty cigarette packets and cigarette butts.

Another twenty-one participants' comments referred to breaches made by individuals or members of the public who *"pass through," "lurk," "loiter"* or otherwise use the school grounds as a thoroughfare after school hours. An additional thirteen participants specified *"teenagers," "youths"* or *"local kids"* who breached the SFEAA while *"walking through"* or *"hanging out"* on school premises after hours.

Responsibility for ensuring compliance

Most teachers thought that the principal and other senior management should take a key role in ensuring students, staff and parents do not smoke on school premises (Table 21). While 82% of teachers considered they were responsible for ensuring students do not smoke on school premises, just 39% and 51% respectively thought they should be responsible for ensuring other staff or parents comply with smokefree policy. Similarly, although 55% of participants thought auxiliary staff should be responsible for ensuring students were compliant with school smokefree policy, considerably fewer thought auxiliary staff should be responsible for ensuring staff (23%) and parents (33%) comply.

Table 21: Who school teachers consider to be responsible for ensuring students, staff and parents do not smoke on school premises (weighted %)

Who should be responsible for ensuring:	students don't smoke %	staff don't smoke %	parents don't smoke %
The principal and other senior management	90	87	86
Teachers	82	39	51
Board of Trustees	59	62	65
Auxiliary staff (e.g. teacher aides & administration staff)	55	23	33
Schools should not have to be responsible for this	3	4	6
Other	5	2	4

Participants were invited to comment on who else they may consider to be responsible for ensuring that the school remain smokefree. The next sections describe comments related to other people who were considered to be responsible for ensuring compliance with the smokefree law.

Responsibility for ensuring students do not smoke on school premises

Fifty of the 75 teachers who indicated "others" should be responsible for ensuring students don't smoke on school premises provided explanatory text. Of these 26 teachers highlighted the role of parents/whānau.

> *Parents need to be aware of their own children's habits.*

There were six references each to *"all staff"* and *"other students."* The latter group included *"senior students," "prefects,"* and *"peers."* Five participants considered the responsibility lies with the entire school community,

> *Everyone should do their bit.*

Two felt that this responsibility should be borne by the police.

> *Aren't the police responsible for ensuring the laws of the land are enforced?*

Several respondents indicated that while enforcing smokefree policy amongst students was a reality of their jobs, they should not be responsible for this. For example, one teacher stated:

> *This shouldn't be part of our duties but alas it is a requirement.*

Another suggested "*additional support to promote non-smoking could be helpful."*

Responsibility for ensuring staff do not smoke on school premises

Of the 33 teachers who stated that "others" should be responsible for ensuring staff do not smoke on school premises, 11 specifically commented on this. Most thought that teachers as adults should take *"self-responsibility"* for their own actions.

As one teacher added however

> *This will always be a matter for contention as some Principals, Senior Managers etc smoke.*

Two participants noted that staff were aware of and reminded of their school smokefree policy. One considered that *"students should also ensure teachers are not smoking at school,"* and another suggested that *"smoke policemen or some special unit law enforcement"* could assume responsibility in this context.

Responsibility for ensuring parents do not smoke on school premises

Fourteen of the 54 teachers, who indicated others should be responsible for ensuring parents don't smoke on school premises, specifically commented on this. Eleven participants acknowledged the difficulty in ensuring that parents do not smoke on school premises, in some cases citing a concern for their personal safety.

> *You have to be very careful when approaching some parents - they become very irate and you put yourself in danger,*

For staff we don't want an altercation with decile one parents!

A principal/teacher/staff member should not have to be put in this position as it can be intimidating

One participant expressed a concern that telling parents not to smoke could damage tenuous relationships with parents.

It's often tough to get parents to feel accepted/comfortable in a school environment, so to have them put off by being told about smoking could be a problem.

Ten participants considered that:

Parents should take responsibility for themselves.

In line with this, a further four stated that *"good use of signage everywhere,"* and otherwise ensuring parents are informed of the smokefree policy could aid compliance.

A few teachers (3), thought that police, all staff members, other parents, and volunteer security provided, for example, by Māori wardens should be responsible for ensuring parents do not smoke on school premises.

Māori Wardens/Volunteer security from local church groups to help [enforce smokefree policy] when we have evening events on.

<u>General comments related to the responsibility for ensuring compliance with the SFEAA</u>

Overall forty participants specified that general compliance with smokefree policy was the responsibility of the whole school community. Consistency was cited as one reason for this:

If we are genuinely convinced that the school must be smokefree it is everyone's responsibility to provide the message or there are mixed messages.

Sharing the burden of responsibility was cited as necessary:

There has to be a unified approach to this or some poor person gets labelled the 'bad-guy'!

Twelve respondents referred to the role of *"clear signage"* and *"generally communicating"* the smokefree policy to the community *"for people to politely refer to." "Reminders"* such as these were perceived to work both proactively *"so that conflict does not arise "*and reactively:

We erected more signs when a problem became obvious.

There were seven references to senior management and the Board of Trustees taking a greater role in ensuring especially staff and parents did not smoke on school premises. One teacher noted:

Without strong support from senior management it is very difficult for individual teachers.

Five respondents thought:

Students themselves can play a role in the smokefree school.

A further four participants nominated parents as taking greater responsibility for a smokefree school environment, while four more promoted self-responsibility suggesting that as adults:

> *Parents and staff should take initiative towards not smoking around children and youth.*

Eleven participants stated that issues of responsibility did not apply to them. Where stated, reasons provided for this concerned an absence of staff or students who smoke, or a general acceptance *"in the community that the campus is non-smoking."*

Several teachers thought that compliance was not an achievable goal.

> *It's an impossible job. We move them all from one place and they just go on to another. They are addicted.*

Another respondent specified that controlling student smoking was a low priority in relation to other challenges.

> *Smoking cigarettes is the least of our worries. Marijuana is an issue when available. Alcohol sometimes used. Students fighting is another problem.*

An additional three teachers thought that responsibility for ensuring schools were smokefree was outside the role of schools.

> *The job of schools is not law enforcement.*

A further two stressed that responsibility should feasibly be *"during school hours only."*

Finally seven teachers made general statements which indicated strong support for smokefree schools, for example:

> *The smokefree policy should be enforced at all times.*

Two participants made comments which did not support smoking restrictions on teachers.

> *It would be nice if teachers and parents didn't smoke on school premises but as adults they should make their own choice. Teachers especially have a stressful job and not allowing them to smoke at break times is an unreasonable and unfair expectation.*
>
> *Smoking is not illegal and all staff should feel supported in their school and not ostracised for doing something that is not unlawful.*

Informal designated location where staff smoke

Most teachers (60%) indicated that no location had been specified for staff to smoke, while a small proportion (5%) stated that an on-site location had been suggested (Table 22).

Table 22: Whether a location for staff to smoke had been suggested, and whether the location was on or off school/ECC premises (n=954) (weighted %)

	%
Yes	
On school/ECC premises	5
Off school/ECC premises	33
Both on and off school/ECC premises	0.2
Did not stipulate whether suggested location was on/off school/ECC premises	2
Sub-total	40
No	60
Total	100

There was a significant difference by school decile in whether school teachers' schools had suggested a location for staff to smoke. Twice as many teachers from decile one and two schools (58%) reported that their school had suggested such a location than teachers from decile nine and ten schools (29%) (Table 23).

Table 23: Whether a location for school staff to smoke had been suggested, by school decile (n=704) (weighted %)

School decile	Yes %	No %	Total %
1 & 2	58	42	100
3 & 4	37	63	100
5 & 6	36	64	100
7 & 8	22	78	100
9 &10	29	71	100
Total	36	64	100

Design-based F(3.85, 265.79) = 6.5487 P = 0.0001

We found a trend for a decrease in the proportion (odds/risk) of school teachers whose school had suggested such a location with a corresponding increase in school decile rating ($p<0.0001$) (Figure 6).

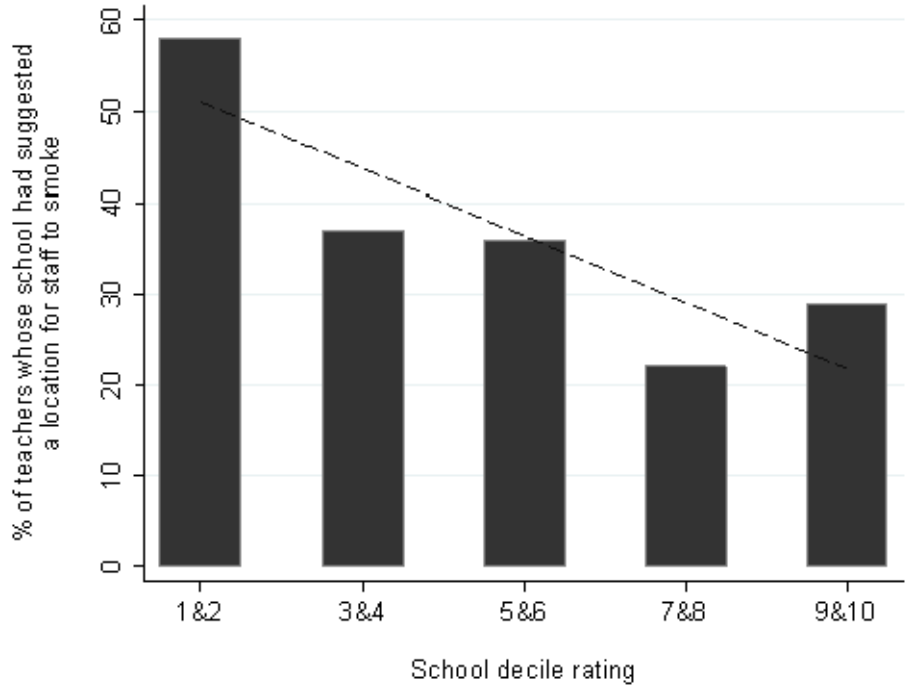

Figure 6: Location for staff to smoke by school decile (weighted %)

Onsite locations suggested by school

Twenty-eight of the forty participants, who indicated their school/ECC had suggested an onsite location for staff to smoke, described the locations. Six teachers described areas by the staffroom (e.g. "*small balcony off staffroom"),* six specified the area was onsite but "*away from the school/centre or children*," five specified the school caretaker's area, four specified the school carpark, while the remaining seven named miscellaneous locations (e.g. *"the old incinerator shed").*

Offsite location suggested by school

Of those teachers who indicated their school/ECC had suggested an off-site location for staff to smoke, 232 described those locations. Of these, 91 teachers described locations which were outside the school, but potentially within sight of children and parents, such as, outside front or back gates, on or across the road from the school front or back entranceway, or otherwise likely to be within ten metres of the school boundary, for example:

On the other side of the fence line at least five metres away from the school.

Eleven participants described areas which appeared to be in close proximity of the school although it was specified that staff members would not be in view of students, for example:

In the street out front, out of pupils' view.

Eighty-two teachers stated that the offsite location was intended to be *"out of sight of children and parents.*" They wrote for example: *"up/down the road"* or *"far away*

from the school." Fifteen participants stipulated that staff who smoked left the school vicinity by car. One teacher noted however that :

> *This is seen as hypocritical by students who see the teacher lighting up in their car before they exit the school grounds!*

Additionally, twenty-one participants stated that teachers smoked in their cars, most commonly off school property. Twenty-three participants stated that staff smoked at specific properties offsite. These were mostly staff member homes, although two were *"the school house."*

No location suggested by school

Of the 580 teachers who stated that their schools had not suggested a location for the staff to smoke, fourteen commented that *"no-one smokes."* Because of this the school is considered to be naturally smokefree. Of these, one participant stated:

> *No, our very big staff don't smoke and this has no effect whatsoever on what the students and the parents and whānau do!!!!"*

An additional two participants stated their schools had not suggested a location because of the school's religious character, for example:

> *We are a Christian school.*

Perceived visibility of staff smoking

More than half (55%) the kura kaupapa Māori teachers and almost one third (30%) of all teachers reported seeing staff smoking within visible distance of the school boundary (Table 24). Half the school teachers from decile one and two schools reported staff were visible when smoking compared with one fifth of teachers from decile nine and ten schools. Perceived visibility of staff smoking was reported more by secondary school teachers than teachers of other teaching levels.

Table 24: Perceived visibility of staff smoking by teaching level, school classification and residential region, and school decile rating (weighted %)

	Yes %	No %	Total %
Teaching level (n=1,238)			
ECC	30	70	100
Primary	24	76	100
Intermediate	30	70	100
Secondary	37	63	100
Other	27	73	100
Total	30	70	100
School classification(n=984)*			
State	29	71	100
Kura	55	45	100
Private	24	76	100
Other	28	72	100
Total	29	71	100
School decile (n=907)*			
1 & 2	50	50	100
3 & 4	35	65	100
5 & 6	35	65	100
7 & 8	21	79	100
9 & 10	20	80	100
Total	30	70	100
Residential region (n=1,230)†			
Northland	39	61	100
Auckland	30	70	100
Waikato	37	63	100
Bay of Plenty	34	66	100
Gisborne	48	52	100
Hawke's Bay	41	59	100
Taranaki	16	84	100
Manawatu	30	70	100
Wellington	39	61	100
West Coast	42	58	100
Canterbury	26	74	100
Otago	13	87	100
Southland	27	73	100
Tasman	0	100	100
Nelson	1	99	100
Marlborough	14	86	100
Area outside	5	95	100
Total	30	70	100

*Excludes EC teachers

†There were more than 100 responses from teachers from Auckland, Waikato, Bay of Plenty, Wellington and Canterbury. Fewer than twenty teachers each responded from the West Coast, Tasman, Nelson, Marlborough, and the Area outside other regions.

We found a trend for a decrease in the proportion (odds/risk) of school teachers who perceived visible staff smoking with a corresponding increase in school decile rating ($p<0.0001$) (Figure 7).

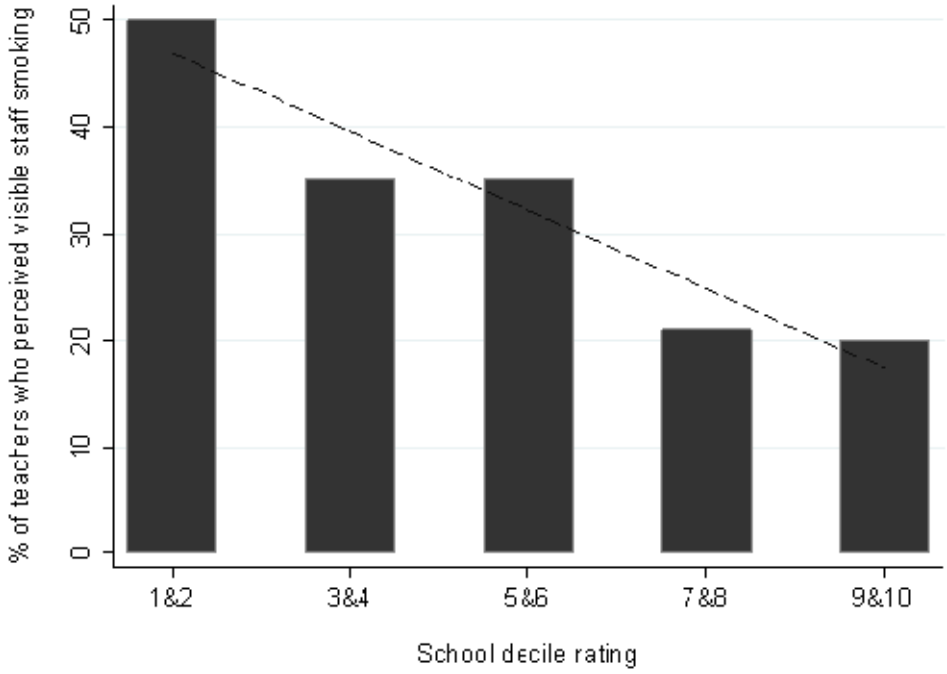

Figure 7: Perceived visibility of staff smoking by school decile (weighted %)

Smoking cessation support offered to staff by school

Thirty-two percent of kura kaupapa Māori teachers reported that their kura offered smoking cessation support (Table 25). Twelve percent of teachers from decile one and two schools reported smoking cessation support compared with 5% by teachers of decile nine and ten schools. More than 40% of all teachers did not know if such support was offered by their school.

Table 25: Cessation support by teaching level, school/ECC classification and residential region, and school decile rating (weighted %)

	Yes %	No %	DK %	Total n
Teaching level (n=1,234)				
ECC	8	65	27	100
Primary	4	52	45	100
Intermediate	8	50	43	100
Secondary	9	48	43	100
Other	3	65	32	100
Total	7	52	42	100
School classification (n=981)*				
State	7	51	43	100
Kura	32	45	23	100
Private	2	40	58	100
Other	6	57	38	100
Total	6	50	43	100
School decile (n=904)*				
1 & 2	12	55	32	100
3 & 4	6	49	45	100
5 & 6	4	54	42	100
7 & 8	7	57	36	100
9 & 10	5	46	49	100
Total	7	51	42	100
Residential region (n=1,226)†				
Northland	10	51	38	100
Auckland	7	48	45	100
Waikato	6	60	35	100
Bay of Plenty	4	50	46	100
Gisborne	14	55	31	100
Hawke's Bay	8	53	39	100
Taranaki	1	53	46	100
Manawatu	3	50	48	100
Wellington	6	62	32	100
West Coast	39	23	39	100
Canterbury	5	49	46	100
Otago	3	61	36	100
Southland	12	42	46	100
Tasman	21	46	33	100
Nelson	17	18	65	100
Marlborough	0	63	37	100
Area outside	0	50	50	100
Total	6	52	42	100

*Excludes EC teachers

†There were more than 100 responses from teachers from Auckland, Waikato, Bay of Plenty, Wellington and Canterbury. Fewer than twenty teachers each responded from the West Coast, Tasman, Nelson, Marlborough, and the Area outside other regions.

Types of cessation support offered

Ninety-four teachers elaborated on the type of cessation support offered by their school/ECC (Figure 8). Counselling was the most frequently cited cessation support, selected by 44 teachers. Stop smoking products was indicated by 36 participants. Ten teachers indicated that their school/ECC had provided cessation support through incentives, while twenty-six teachers indicated support other than the options provided had been offered.

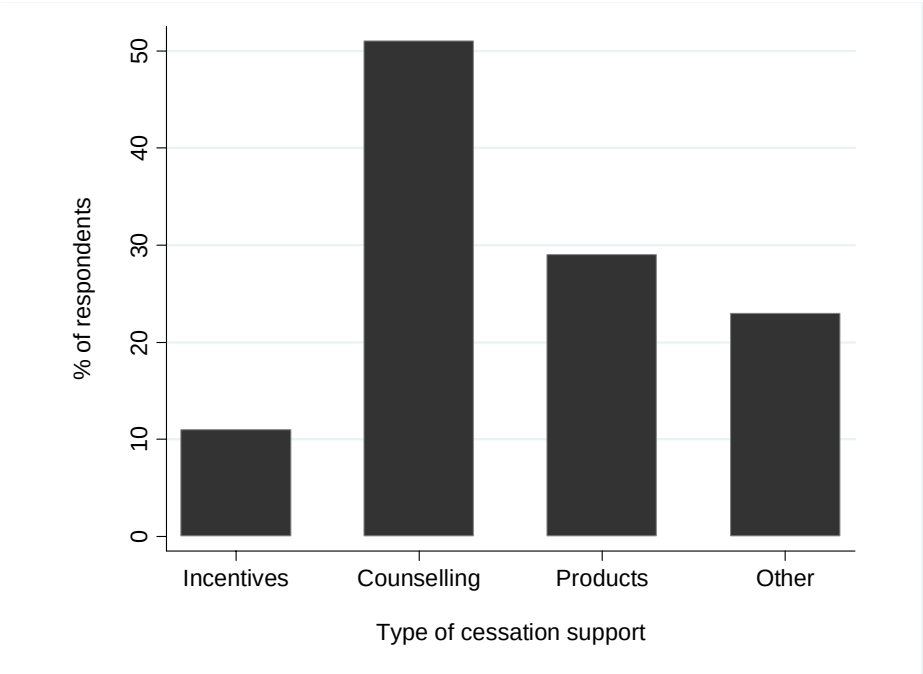

Figure 8: Types of cessation support offered by schools (n=94)

Free text descriptions of the cessation support offered included comments from thirteen respondents who specified informal support such as *"encouragement," "good advice," "verbal support,"* or, *"nagging"* and *"anti-smoking comments."*

Several other teachers indicated non-verbal methods (e.g. posters and stickers), support from the health nurse, and risking prosecution for smoking onsite.

Teaching about smoking

This section presents the results from questions about teachers' attitudes to their role in teaching and advising students about smoking; their role versus parents' roles; the need for tobacco prevention teacher training; and tobacco prevention teaching resources.

Early childhood teachers were not asked questions about advising students not to smoke and about tobacco prevention resources.

Teachers' perceptions about whether they should be more active in teaching students about smoking.

Just under half of all teachers (46%) agreed that "teachers should be more active in teaching students about smoking," while 35% disagreed and 19% said they did not know. Although teachers who had never smoked and those who were ex-smokers (58% and 57%) were more likely to agree with this statement than teachers who smoked (37%), this difference was not significant.

"Teachers should be more active in teaching students about smoking."

Several respondents did not agree that teachers needed to do more. Four thought that smoking education was adequately covered at their school.

> *Teachers are very active in teaching students about smoking - including in Science & Health programmes.*

Two referred to time constraints.

> *The only reason I disagreed with the question about teachers being more active in teaching about smoking is because the curriculum is already too crowded.*

A further two stated that increased teaching activity in this context would depend on *"whether or not we have evidence that is effective"* and *"on the needs of the school/children and is usually dictated by curriculum priorities."*

Smokefree education

Twenty participants made comments related to smokefree education generally. Five of these expressed thoughts that such education should be approached from a holistic perspective, incorporating notions of *"body image," "social behaviour and responsibility"* and *"the impact of choices teachers and students make on themselves and others."* A further two teachers felt schools should educate young people about addiction more broadly, *"not just smoking."* There were four references to visual aids to educate about the perils of smoking and the merit in having afflicted smokers speaking to student:

> *DVDs should be available to show the graphic long term effects of chain smoking/passive smoking.*
>
> *Take emphysema patients and lung cancer patients to talk to students.*

Several participants expressed a concern that smokefree education should be developed and increased; amongst these was the suggestion:

> *Using experts in this area such as well resourced and informed travelling road shows could be an effective method.*

Finally, one teacher recommended active student involvement in smokefree education:

> *I would like for the students who are smokers to develop programmes that target their peers – much more ready to listen to peers than us older teachers.*

Teachers' role in advising students not to smoke

More than four times as many secondary school teachers than primary school teachers had told students at their schools not to smoke (86% vs. 21%) (Table 26). A much greater percentage of kura kaupapa Māori teachers (62%) compared with private school teachers (36%) reported telling students not to smoke. Across all decile ratings, school teachers from decile one and two schools had the highest rate (64%) and teachers from schools with a decile rating of seven or above, the lowest rate (40%) of advising students not to smoke. Sixteen percent of school teachers, most of whom were primary school teachers, considered their students to be too young to be advised in this way.

There was no significant difference in whether school teachers by smoking status, advised their students not to smoke (data not shown).

Table 26: Advising students not to smoke, by teaching level, school/ECC classification and residential region, and decile rating (weighted %)

	Yes	No	N/A - students too young	Other	Total
	%	%	%	%	
Teaching level (n=1,052)					
Primary	21	46	32	1	100
Intermediate	47	39	11	2	100
Secondary	86	14	0	0	100
Other	48	48	5	0	100
Total	51	32	16	1	100
School classification (n=958)*					
State	52	32	17	0	100
Kura	62	33	5	0	100
Private	36	44	18	3	100
Other	49	32	18	1	100
Total	50	33	17	1	100
School decile (n=883)*					
1 & 2	64	21	13	2	100
3 & 4	51	38	11	0	100
5 & 6	52	26	21	0	100
7 & 8	49	36	14	1	100
9 & 10	49	31	20	0	100
Total	52	31	16	1	100
Residential region (n=1,046)†					
Northland	54	31	14	1	100
Auckland	52	24	22	2	100
Waikato	43	45	10	1	100
Bay of Plenty	49	34	17	0	100
Gisborne	55	34	11	0	100
Hawke's Bay	57	18	22	3	100
Taranaki	45	53	1	1	100
Manawatu	50	35	13	2	100
Wellington	56	38	6	1	100
West Coast	61	39	0	0	100
Canterbury	54	28	17	0	100
Otago	34	52	14	0	100
Southland	57	25	18	0	100
Tasman	54	30	15	0	100
Nelson	39	17	44	0	100
Malborough	67	2	31	0	100
Area outside	0	100	0	0	100
Total	51	32	16	1	100

*Excludes EC teachers

†There were more than 100 responses from teachers from Auckland, Waikato, Bay of Plenty, Wellington and Canterbury. Fewer than twenty teachers each responded from the West Coast, Tasman, Nelson, Marlborough, and the Area outside other regions.

Thirty-four teachers added comments mostly explaining that advice not to smoke had not been required as students had not been seen or caught smoking. Several teachers stated that they advised students not to smoke indirectly rather than directly. This often involved discussing the negative effects and the pros and cons of smoking. Two teachers described enthusiastic attempts to dissuade students from starting to smoke and encouraging others to stop; and one teacher stated that while "school policies are followed," this was not his/her "personal business." Finally, one participant indicated that although students who smoked had been asked not to do so on school property, they had also been instructed to use their school pass to go home to do so.

Teachers' perception of their role versus that of parents in teaching children about smoking

"Parents, rather than schools should teach children about smoking."

Sixteen participants did not select any of the response options for this statement, but wrote comments such as "*both*" or *"as well as"* in the margin. A separate category of "both" was created for these participants (see Table 27). Eight participants selected both the "agree" and "disagree" response options for this statement and wrote comments to indicate that parents and schools should both be involved. These participants were also recoded in the "both" category.

Table 27: Teachers' perceptions of their role vs parents as models of smoking behaviour and attitudes (weighted %)

	Agree	Disagree	Don't know	Both (Parents and Schools)
Parents, rather than schools, should teach children about smoking (n=1,235)	48%	39%	11%	2%

Of all of the attitude statements, this statement attracted the greatest number of comments and feedback. Comments from seventy-nine respondents indicated they thought parents *as well as* schools should teach children about smoking in partnership. For example:

> *I believe that this has to be collaboration between schools and parents/family/whānau.*

Eighteen teachers referred to the involvement of others either over and above or as well as parents and schools in educating young people about smoking, variously including "*society*," "*the media*," "*everyone*" and the "*whole community*." One participant noted, for example:

> *I think that this is a community issue not mainly one that should be taught in schools.*

Many teachers elaborated on the role of parents and families in educating their children about smoking. Of these, some considered parents should take the lead in such education.

Parents need to take responsibility for health issues. Schools can only reinforce good habits.

Others acknowledged that while such education should come from home, this did not always occur. Schools therefore often inherited this role by default:

Teaching children about the harmful effects of smoking should in an ideal world start with the parents but this is not always realistic so teachers can play an important role.

In line with the key role of parents, another theme which emerged was the sense that not only did some parents not always fulfil their role in educating young people about smoking, they set poor examples by smoking themselves, thereby hindering student learning in this area and in some cases actively supporting their children's smoking.

At secondary level many kids are allowed to smoke at home - and their parents buy them!

Possibly because of this last point, one participant who disagreed with the statement qualified this by adding:

It is vital that they have correct information.

Some teachers who commented on this statement did so to emphasise that such education was not the domain of schools.

I believe the state should be leaving this to the parents - parents should be trusted to teach their own kids this.

When are some of these problems not the school's responsibility?

This latter comment reflected a recurrent, overlapping theme concerned with the demands on teaching time and the increasing expectations on teachers to be responsible for areas outside core curriculum areas.

The curriculum is already overloaded and every area of society wants school to do their job.

The cumulative weight of responsibility for matters outside core curriculum concerns me.

Agreement with "Parents, rather than schools should teach children about smoking" by smoking status

Although current smokers were more likely (61%) to think that parents rather than schools should teach children about smoking than either ex- or never smokers (58% & 57% respectively), this difference was not significant (data not shown).

Teachers' perspective on their need for training in smoking prevention

Just over half (53%) of all teachers, including teachers who don't currently teach about smoking, were supportive of teacher training including a section on smoking prevention (Table 28).

Table 28: Teaching training should include a section on smoking prevention, by teaching level, school classification and decile rating and by smoking status (weighted %)

	Yes %	No %	Don't know %	Total
Teaching level (n=1,220)				
ECC	66	20	15	100
Primary	47	40	13	100
Intermediate	61	33	6	100
Secondary	52	41	7	100
Other	61	39	0	100
Total	53	37	10	100
School classification (n=1,001)*				
State	48	42	10	100
Kura	59	35	7	100
Private	55	40	6	100
Other	58	33	9	100
Total	50	41	10	100
School decile (n=892)*				
1 & 2	49	44	7	100
3 & 4	41	48	11	100
5 & 6	53	39	9	100
7 & 8	54	38	8	100
9 & 10	50	39	10	100
Total	50	41	9	100

*Excludes EC teachers

Three hundred and four teachers added free-text comments. Unless otherwise stated, the comment categories include teachers from all teaching level and there was no significant difference due to teaching level.

Of those teachers who added explanatory text, over seventy referred specifically to the Health/PE curriculum. Secondary school teachers within this category almost exclusively considered such training to be of sole relevance to specialist Health/PE teachers.

> *We don't go into detail like this in training. We are qualified in specialist areas and only do one year teachers studies.*

Twenty respondents believed smoking prevention to be already incorporated into the health curriculum component of teacher training; others thought if it wasn't it could adequately be covered in this context, with some stipulating however that it should *"not stand alone."* Thirteen respondents thought that teacher training should offer not only smoking prevention but include *"other risk-taking behaviour."*

Thirty-two teachers cited time constraints and an already overloaded curriculum. An additional seven respondents referred specifically to overcommitted teacher training schedules.

Too many pressures already on curriculum.

There is already too much crammed into teacher training and hence much is 'watered down'.

Many comments challenged the extent to which smoking education was within the scope of the teacher's role. Seventeen respondents, mainly primary school teachers, asserted for example that teacher training should focus on teaching the *"three R's"* and *"numeracy and literacy,"* and a further eight specified that teacher training should focus on the mechanics of teaching, such as *"behaviour management & relationship building & teaching strategies etc"* and *"good practice and classroom management."* Eleven participants considered there to be *"far more pressing issues"* for teachers to concentrate on, such as *"nutrition*" "*personal hygiene and family violence*" or "*special needs*."

Some teachers supported a smoking prevention module for teachers

Thirteen respondents of mainly primary school teaching level explained that they considered smoking prevention teacher training to be unnecessary, indicating that readily available resources were sufficient for teaching this topic in schools.

The resources in schools are straightforward to teach.

Three participants thought teaching about smoking should be commonsense by way of clarifying their disagreement to the statement. Five school teachers commented that this area was handled by external programmes:

This is already included in the Life Education Programme.

One respondent thought that smoking prevention education would be more credible coming from external providers.

Outside experts are more authoritative as teachers; classroom teachers more ineffective in isolation.

Contrary to these comments, six comments suggested participants did not see education on smoking as a necessary teaching topic because smoking would ultimately depend on personal choice.

At the end of the day it comes down to personal choice.

Several participants indicated non-smoking behaviour to be a desirable requirement for teachers.

If you are a smoker then perhaps that should count against you when looking at being a teacher or being employed as a teacher.

A small group of participants expressed concerns that personal views on smoking could interfere with teaching in this area.

Unless you have been a smoker I don't think you can be objective in this topic, non smokers are extremely judgmental against smokers.

There were a range of views on the most appropriate age for children to be taught about smoking, and for some teachers this determined the necessity of smoking prevention training for teachers.

Some respondents thought that children at early childhood level *"are too young to have anti-smoking education"* while others considered it "*really important to talk about health issues to pre-school children."* Other respondents thought that teacher

training in smoking prevention would be of greater or sole relevance to teachers of primary school children after which smoking became *"more of a social issue"* or *"an established habit,"* while others stated *"not at primary level."*

Some respondents thought smoking prevention modules in teacher training would only be relevant to "*high school teachers or intermediate school teachers"* while another thought such training should be for teachers of *"years 7 & 8 children only."*

Eighteen respondents, who were mainly supportive of smoking prevention training for teachers, elaborated on how they thought this should best be approached. Ideas included: educating teachers on how to teach young people decision-making skills, empowerment, resilience, and resisting peer pressure; keeping teacher training *"brief," "relevant and factual rather than judgemental,"* and "*well constructed with smoking students' input."*

Amongst those who expressed emphatic support for teacher training in smoking prevention (n=29), there was a range of explanations for such strong support. Some thought teachers should *"be informed"* so that they can *"address the issue knowledgeably."* Others acknowledged the general relevance of the topic to young people's health and well-being.

> *We should do all we can to help young people be healthy and learn.*

Several teachers thought tobacco education had broader applications than simply addressing smoking.

> *It is an important social inquiry study – influences as to why people smoke correspond to why students are influenced to participate in other activities as well.*

Two teachers supported teacher training in tobacco education implying that their non-smoking status meant issues related to smoking were personally unfamiliar to them.

> *I've always been a non-smoker and don't think about issues actively.*
>
> *I am a non-smoker so any additional facts would be great.*

Teachers' perspective on their need for training in smoking prevention and advising students not to smoke by smoking status

Smoking status affected opinions about whether teacher training should include a section on smoking prevention with more than half of current smokers opposing this idea (Table 29).

Table 29: Teacher training should include a section on smoking prevention, by smoking status (weighted %) (n=1,198)

Smoking status	Yes %	No %	Don't know %	Total %
Current smokers	34	54	12	100
Ex-smokers	54	39	7	100
Never smokers	54	34	11	100
Total	53	37	10	100

Design-based F(3.73, 257.23) = 2.7458 P = 0.03

Who teaches about smoking?

Primary school teachers were least likely to teach about smoking (30%) whereas half of intermediate school teachers did this (Figure 9).

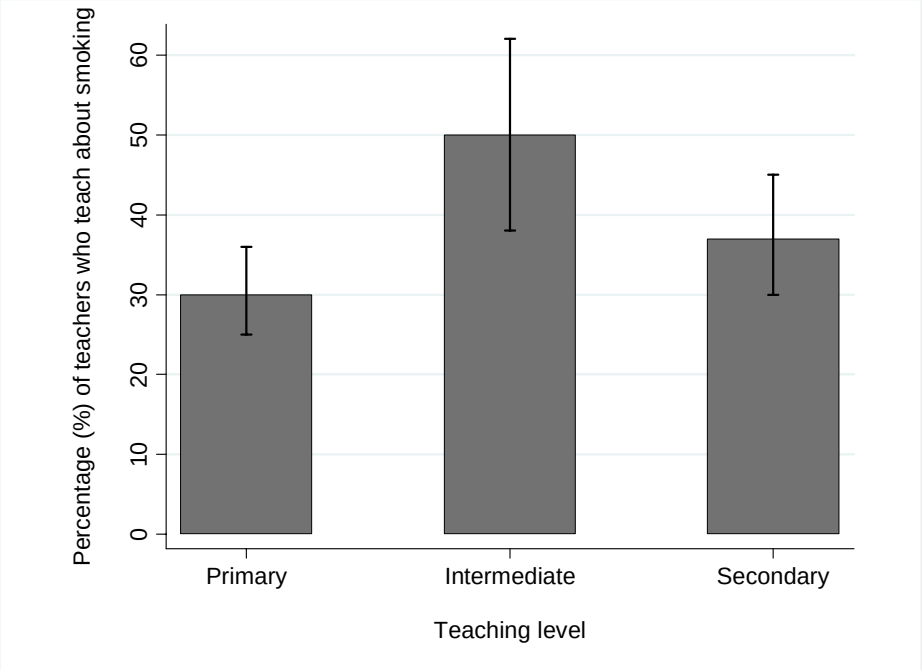

Figure 9: Percentage of participants (by teaching level) who teach about smoking (weighted %)

Fifty-seven primary, intermediate and secondary school teachers, mainly participants who had selected "not applicable," provided free-text comments to explain their response. Twenty-four teachers stated either that this was the Health Teacher's role or they described their own role (for example Principal, science/maths/English teacher) by way of explaining why they did not teach about smoking. Sixteen teachers explained that this was taught by external programme providers, most commonly "*Life Education."*

Thirteen stated that any teaching in this context occurred incidentally, when and where this was considered to be appropriate.

> *I incorporate this into my teachable moment times, when I know that students are smoking.*
>
> *We talk about it but I don't teach it specifically.*

Four teachers considered smoking education to be not applicable to the population they taught: for two teachers, their students were too young; another taught special needs children; and another stated that:

> *No one in the community smokes.*

Resources used for teaching about smoking

Most primary (89%) and intermediate (82%) school teachers who taught about smoking indicated they had used the *Life Education Trust (LET)* website (Table 30).

Just four percent of primary, intermediate and secondary school teachers overall had used the *LungFish* website. Almost one third (30%) of teachers did not know about it. Just over one third (35%) had used the *Smokefree Schools* while 14% did not know about this resource.

Table 30: Use of LungFish, Smokefree Schools and LET websites by teaching level (weighted %)

	Yes	No	I don't know of it	Total
	%	%	%	%
LungFish (n=313)				
Primary	4	67	29	100
Intermediate	4	72	24	100
Secondary	4	63	33	100
Total	4	66	30	100
Smokefree schools (n=318)				100
Primary	32	50	18	100
Intermediate	44	49	7	100
Secondary	34	53	13	100
Total	35	51	14	100
Life Education (n=318)				100
Primary	89	11	0	100
Intermediate	82	15	3	100
Secondary	20	63	18	100
Total	58	34	8	100

Two-thirds (67%) of secondary school teachers who taught about smoking had used other resources for teaching about smoking (Table 31). More than twice as many secondary school teachers (27%) than primary (12%) and intermediate (11%) school teachers suggested other resources they thought would be useful for teaching about smoking.

Table 31: Participants (who teach about smoking) by teaching level who used or suggested other smokefree teaching resources (weighted %)

	Yes %	No %	Total %
Used other resources (n=325)			
Primary	27	73	100
Intermediate	47	53	100
Secondary	65	35	100
Total	47	53	100
Suggested other resources (n=317)			100
Primary	12	88	100
Intermediate	11	89	100
Secondary	27	73	100
Total	18	82	100

Other resources used to teach about smoking

Twenty-six teachers, all of whom were either primary or intermediate school teachers, cited DARE or specific DARE courses (such as "*Dare to make a choice"* or *"Dare to be you"*) when asked about other resources they had used. Nineteen references were made to Foundation for Alcohol and Drug Education (FADE) or FADE resources (such as *"Let's Clear the Air Together"* and/or *"Every Breath You Take*"), and four named ASH. References to both FADE and ASH were exclusively from secondary school teachers.

Nineteen teachers from a range of teaching levels that reported they used resources provided by health providers such as *"the school nurse," "the health nurse," "the Public Health Nurse," "District Health Board,"* their *"Health Department,"* or unspecified *"local medical practitioners."* A further four named specific health services such as the *"Donald Beasley Institute*" or *"Turanga Social Services."* There were eighteen references from teachers from a variety of teaching levels to sources of smokefree teaching materials from unspecified websites or *"the internet,"* while six secondary school teachers specified various websites such as *"You Tube," "www.nzdf.org.nz,"* and *"quitsmoking.org.nz."*

There were twenty references, mainly by secondary school teachers, to either non-specific resources, such as *"resources from lots of different sources"* or materials from unspecified sources, for example *"smokefree resources."* Seventeen teachers, again of mainly secondary school level, mentioned books or libraries as resources they had used. Of these, two participants provided book titles, "*Kiwi Integrated Science Series (KISS) Textbooks"* and *"Hardwired* (*written by John Cowan),*" while other books in this category included variously Science, Health Education, Biology or French textbooks. The *"National Library"* was named by two participants. Twelve respondents, mostly secondary school teachers, included unspecified resources which had either been self-produced or amassed over time either by the participant or by their school. One teacher specified a "s*elf made - exemplar - formal writing on anti smoking issues - arguments against smoking."*

Other resources that were mentioned by fewer than ten teachers included: *"people resources"* (n=7), which suggested the utility of personal experience of either the teacher (for example "*Personal information*") or of others (for example *"invited speakers - presently smoking and reformed smokers"*); *"newspaper articles"* (n=4); *"smoking machine"* (n=4); a *"Skills for Adolescence programme*" (n=4); a further four references from primary and intermediate school teachers cited *"Life Education;"* NZ Health Curriculum –related resources (n=3); a DVD called *"In the Line of Fire"* (n=2); resources produced by a church (n=2), by Health Sponsorship Council (n=2), and by *"auahi kore";* and in a single case each, resources provided by the Quitline, National Heart Foundation, and the Cancer Society.

Suggested resources for teaching about smoking

Thirty-five secondary school teachers compared with 22 primary and ten intermediate school teachers suggested other resources they thought would assist them in organising, planning or teaching about cigarette smoking. Comments from teachers of different levels were distributed amongst the three key categories which emerged.

The first of these categories was graphic resources (n=15). These included photos, pictures, and/or videos/DVDs showing the effects of smoking on the body, and smoking-related videos/DVDs more generally. The second category of suggested resources was having guest speakers talk to students about smoking (n=11). These included speakers who had been adversely affected by smoking, and, sports or community role models. The third category was online resources (n=11) amongst which "interactive gaming style," "enquiry-based" websites and "interactive anatomy models" were proposed.

Several teachers stipulated that resources should be age-appropriate, child-friendly and up-to-date. Others thought young people would benefit from a greater understanding of the technology, economics and statistics of cigarettes and cigarette use in NZ, and how tobacco companies operated. One teacher suggested the utility of having students present *"anti-smoking material*" such as a PowerPoint presentation at assemblies.

Tobacco company-funded resources

Amongst all school teachers in the survey, most either did not know (57%) if their school had used educational resources developed with funding from a tobacco company or thought they had not (41%). The majority of teachers (70%) said they would distrust such resources. See Appendix L and L(a) for details.

Teachers' awareness of their school's involvement in health promoting initiatives

Primary, intermediate and secondary school teachers were asked if their schools were involved with Health Promoting School (HPS) or Fruits in School (FiS).

Health Promoting Schools (HPS)

Across school classifications, between 67% and 74% of school teachers indicated their schools were HPS (Table 32). Almost one quarter (24%) of all primary, intermediate and secondary school teachers did not know if their school was an HPS (Appendix M).

Table 32: Health Promoting Schools by teaching level and school classification (weighted %)

	Primary %	Intermediate %	Secondary %	Total %
State (n=806)				
Yes	73	66	59	67
No	8	7	10	9
N/A	1	1	0	1
Don't know	18	26	31	24
Total	100	100	100	100
Kura (n=33)				
Yes	85	100	58	74
No	7	0	16	10
N/A	0	0	0	0
Don't know	8	0	26	16
Total	100	100	100	100
Private (n=58)				
Yes	70	28	70	67
No	15	0	13	13
N/A	0	0	0	0
Don't know	15	72	17	20
Total	100	100	100	100
Other (n=71)				
Yes	81	32	66	68
No	8	2	6	7
N/A	0	0	1	1
Don't know	10	66	27	25
Total	100	100	100	100

There was a relationship between perceived school participation in HPS and decile rating. For the higher decile school, there was a lower proportion (odds/risk) of teachers, who believed that their school was a HPS (Logistic regression, weighted; $p<0.0001$). See Figure 10.

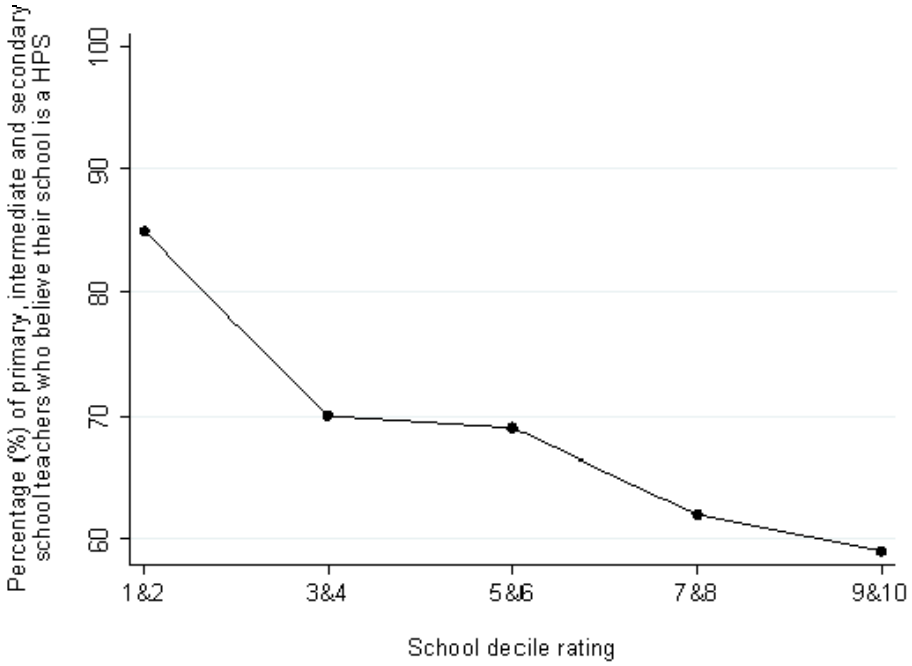

Figure 10: Weighted percentage of teachers by school decile who report that their school is an HP school

Fruit in Schools (FiS)

FiS was a programme offered primarily to decile one and two primary and intermediate schools. However, responses from all participating primary, intermediate and secondary school teachers were collected. Nationwide, almost 90% of the schools registered with the MoH as receiving FiS support have a decile rating of one or two. In the current study, of the teachers who reported that their school was a FiS school, little more than one third (37%) taught at primary or intermediate, decile one or two schools. Appendix N shows the data in full.

Seventy-nine percent of teachers from decile one schools and 62% of teachers from decile two schools reported their school was a FiS school (Table 33). In 2008, 79% of eligible decile one and 31% eligible decile two schools were registered with the MoH as receiving the FiS programme (Ministry of Health Fruit in Schools data was correct as at September 2008).

Table 33: Fruit in Schools by teaching level and school decile (weighted %)

	Fruit in schools				
	Yes %	No %	N/A %	DK %	Total
Decile 1 (n=70)					
Primary	78	19	0	3	100
Intermediate	84	15	0	1	100
Total	79	18	0	2	100
Decile 2 (n=55)					
Primary	67	32	1	0	100
Intermediate	35	61	4	0	100
Total	62	37	2	0	100

Although teachers were not invited to comment at this juncture, several wrote comments in the margin referring to the FiS item. These comments all sought to clarify teachers' responses. For example two teachers who responded "don't know" respectively added "*we do sell fruit in the tuckshop*," and "*we have free fruit but I don't think it's part of this programme.*"

Teachers' perspective on the relative importance of smoking as a health concern

Primary, intermediate and secondary school teachers were asked to rank seven health concerns in order of importance as they related to the age of the children the respondent taught.

Mean ranking of the problems by teaching level and the results of Kendall coefficient of concordance test (W) is described in Table 34. The results of Kendall (W) test shows that participants in each teaching level ranked the problems in some structured way ($p<0.001$) i.e. they didn't select the ranked item randomly.

Table 34: Mean ranking of problems by teaching level (unweighted) (n=1,007)

		Teaching level		
		Primary (n=472)	Intermediate (n=137)	Secondary (n=398)
Alcohol	mean	4.16	4.01	2.99
	(SD)	(1.03)	(1.35)	(1.6)
Bullying	mean	1.4	1.94	2.77
	(SD)	(1.07)	(1.59)	(1.85)
Cigarette smoking	mean	3.45	3.53	4.36
	(SD)	(1.07)	(1.48)	(1.6)
Marijuana	mean	5.01	4.72	4.09
	(SD)	(1.2)	(1.53)	(1.52)
Overweight	mean	2.68	3.97	5.39
	(SD)	(1.61)	(2.06)	(1.72)
P/other drugs	mean	5.37	4.72	3.89
	(SD)	(1.82)	(2.24)	(2.38)
Sex	mean	5.94	5.12	4.5
	(SD)	(1.35)	(1.8)	(1.92)
	Kendall coefficient of concordance (W)	0.55	0.24	0.17
	Chi- square (df)	1566 (6)	198 (6)	415 (6)
	P value	<0.0001	<0.0001	<0.0001

Note: Only completed sets of ranking by primary, intermediate and secondary school teachers were included in the analysis. Forty-six incomplete sets were excluded.

The rank order given to each health concern by teaching level is described in Table 35. Across all three teaching levels, teachers ranked bullying/violence as the most serious problem for the children they taught. Intermediate school teachers ranked cigarette smoking as the second most important concern, primary school teachers ranked it third whereas secondary school teachers ranked cigarette smoking at fifth position.

Table 35: Rank order given by primary, intermediate and secondary school teachers (unweighted)

	Primary	Intermediate	Secondary
Bullying	1	1	1
Overweight	2	3	7
Cigarette smoking	3	2	5
Alcohol	4	4	2
Marijuana	5	5.5	4
P/other drugs	6	5.5	3
Sex	7	7	6

Although free-text comments regarding ranking the health concerns were not sought from participants, 40 participants added comments. Of these, 17 participants left at least one item unranked and indicated that the unranked items were not applicable to their students or their school:

> *I feel that all except bullying and overweight are not appropriate for 5 year olds.*

> *These are not relevant to the physically disabled students at my school.*

A further fifteen participants ranked at least one item equally and/or indicated they were either unable to or found it very difficult to prioritise the items.

> *These are all closely related to each other so it's a difficult task to categorise!*

Three teachers commented on the particular importance of at least one of the concerns:

> *I feel that our young people's attitudes and behaviour towards alcohol and sex are more serious than cigarette smoking.*

> *Bullying is a top priority for my junior class.*

And one teacher expressed that "*there are other issues that are more important than some of these."*

Four respondents suggested they were unsure of how the ranking item should be interpreted. For example, next to "sex", one participant queried:

> *I'm assuming you mean sexual abuse/contraception?*

Another wrote:

> *Do you mean what I need to teach them about in terms of prioritising these issues?*

DISCUSSION

A nested ecological model is proposed as a useful theoretical and illustrative framework for understanding the results of our study (See Figure 11). An ecological model acknowledges the multiple contexts within which individuals operate.

Below we outline the relevant sections within which our findings are subsequently discussed, followed by features of the ecological model.

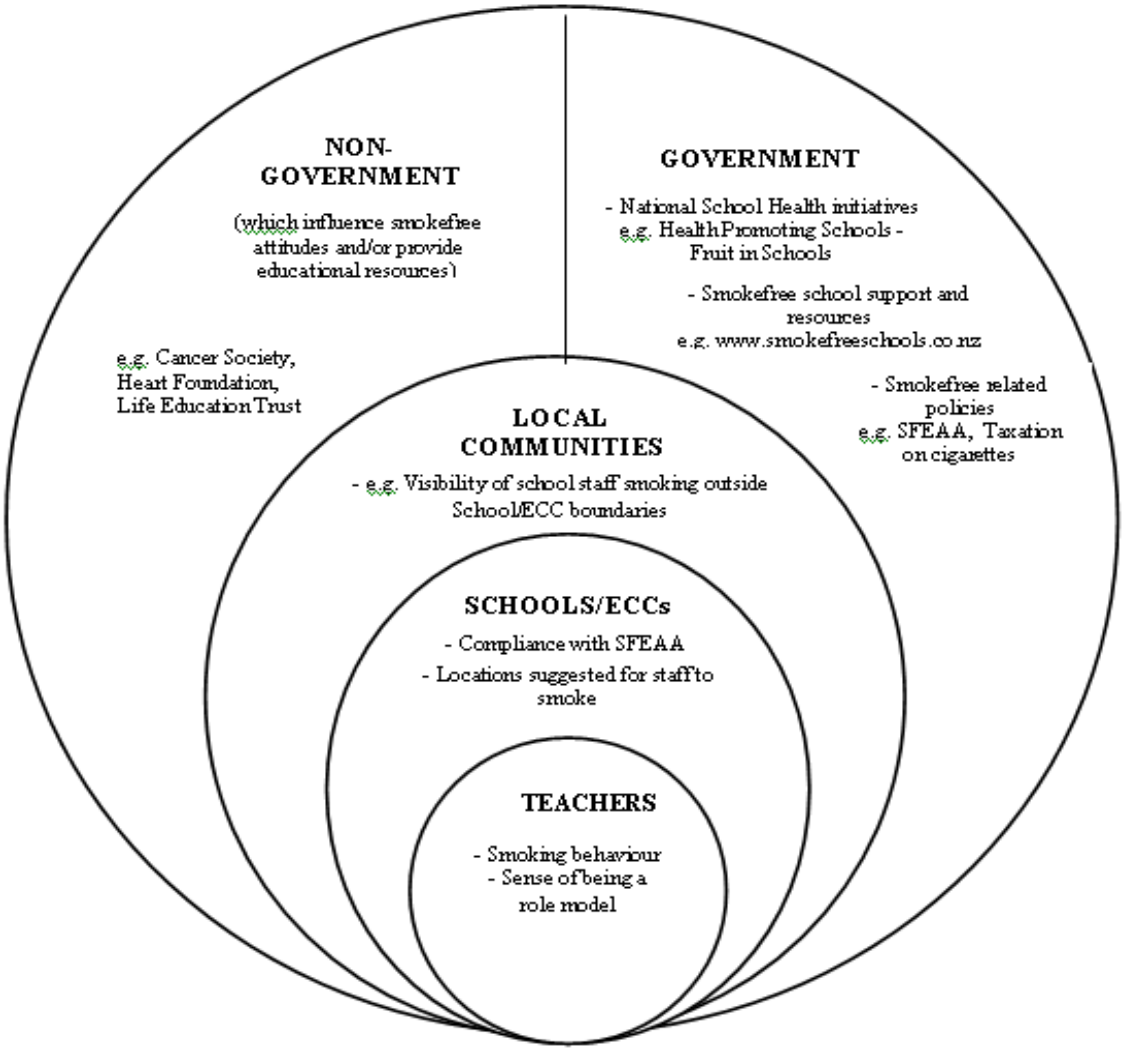

Figure 11: Tobacco smoking and teachers, schools, and their communities: An ecological model

Teachers

Teachers are located at the centre of our model. Teachers' smoking behaviour and the effect of the SFEAA on teachers was a focus of our study. Teachers' attitudes to

smokefree related issues such as: their support for extending the reach of the SFEAA, and restricting the accessibility of tobacco; their perception of their role as smokefree models and in teaching about smoking; their support for including tobacco prevention curricula in teacher training; and their relative ranking of smoking as a health concern are discussed in this section, as is the extent to which teachers' individual smoking behaviour influences these attitudes.

Schools/ECCs

Schools/ECCs are the primary context impacting teachers as an occupational group. Although smokefree policy such as the SFEAA is implemented at the level of government, schools/ECCs are largely responsible for ensuring compliance with the SFEAA, and can influence where staff smoke during school/ECC hours. Whether teachers advise students not to smoke may reflect the extent schools adopt a smokefree ethos.

Local communities

Local communities are the communities geographically related to schools/ECCs and/or the communities which schools/ECCs serve. These communities characterise the next level of context and influence on teachers and the school/ECC environment. Communities vary based on factors such as ethnic composition and socio economic status (SES). Some teachers may comply with the SFEAA but move in to the community realm when they move outside the gates of the school/ECC to smoke.

Government smokefree policies, and Government/non-government involvement in smokefree initiatives

Government and non-government agencies are located at the broadest macro-level of the ecological model. Government implements smokefree policies, such as the SFEAA. National health initiatives such as HPS and FiS which can influence the smokefree consciousness of schools, are also developed at this level. The availability of some such initiatives, such as FiS, which specifically includes a smokefree component, depends on the school community within which the school is located.

Via the Ministry of Education, government develops the Health and PE curriculum which requires tobacco education to be delivered in schools. The government is further responsible for providing tobacco education resources, such as the Lungfish and Smokefree Schools websites. Non-government agencies, such as Life Education Trust, and the Heart Foundation also develop and provide tobacco education teaching resources for schools.

Features of the ecological metaphor

The ecological model acknowledges the bi-directional interplay within and between levels of environment (Nelson & Prilleltensky, 2005). For example, the strength (or weakness) of a school's response to student and/or teacher smoking may both shape and be shaped by, the normative smoking behaviour of the community within which a school is located. This interdependence suggests that changes at one level of the

system will influence not only the individual (teachers) at the centre of the model, but other levels as well. Therefore, the SFEAA which was enacted at the macro-level not only effects teachers, but has the potential to effect the smoking behaviour of a school community. The extent of the effect may be influenced by characteristics of the community, which in turn may be moderated by such factors as the decile rating of the school.

This example usefully highlights the intricacies and blurring between levels that occur as a result of the interplay between systems and the complexities of individual and/or group dynamics. Issues of culture and SES, for example, occur at multiple levels of the model. Boundaries may be blurred to a greater or lesser extent in different settings. For example, there may be less distinctive boundaries between designated character schools, their teachers and their communities. Such schools which are specifically developed to reflect particular values held by a community (Ministry of Education, n.d.), employ teachers who share these values.

Teachers

The SFEAA's impact on teachers' smoking

The imposition of bans on smoking on school premises 24 hours a day, 7 days a week could have been hypothesised to impact on teachers who smoke in 2 main ways:

- Teachers who smoked would quit smoking or teaching, leading to an overall decrease in smoking prevalence among teachers
- Teachers who smoked would reduce their consumption.

The following section reviews the results of this study for evidence of these changes.

Less teachers smoke

Smoking prevalence among participants in this study was considerably lower than among teachers as reported in the 2006 census. Our measure of "current smoking" includes daily, weekly, monthly and less than monthly, and is therefore broader than the "regular smoking" measure utilised in the census which includes daily smoking only. This difference could reflect a response bias, or a real decline in smoking prevalence. A number of findings in our research and that of other researchers support that a real decline has occurred. Firstly, smoking prevalence amongst secondary school teachers declined between 1981 and 2006, from 17% in 1981 to 7% in 2006 (Edwards, Wilson, Thomson, & Atkinson, 2009). However, some of this decline could have been due to some teachers who smoked in 1981 leaving teaching by 2006 and being replaced by non-smoking teachers.

Teachers in our study were asked about their smoking at three time points over the previous five years. The number of new or relapsed smokers (those who identified as current smokers but who did not smoke one year ago), was lower than the number of recent quitters (teachers who reported they smoked one year ago and now identify as ex-smokers). This suggests teachers are stopping smoking at a higher rate than they are starting or resuming smoking.

Moreover two thirds of the teachers in our study, who smoked, attempted to stop in the past 12 months, and self-efficacy for stopping was high. This is more than double the rate of quitting reported in the general population in the NZTUS with 32.5% of current and previous smokers reporting having made a quit attempt in the previous 12 months (MoH, 2009a).

We recommend that cessation support should be more readily accessible to teachers who smoke.

Public health nurses who already go into schools on a regular basis could usefully be encouraged to become Quit Card providers.

Māori teachers smoked at higher rates than European teachers in the study. According to Bandura's (1986) SCT, the role model effect is likely to be enhanced where the model of observed behaviour is similar to the observer. Therefore smoking behaviour of Māori and Pacific teachers is likely to have the greatest role model effect on Māori and Pacific children and young people.

The highest percentages of teachers who smoke were from decile one and two schools. Smoking prevalence is associated with SES (MoH, 2001), therefore smoking is likely to be more normative amongst these school communities. As in the case of Māori and Pacific children, children from low decile schools are amongst those most likely to be at risk of smoking initiation. Although we did not collect data on the SES of teachers in our study, it may be possible to infer their SES status based on what school they teach at. It is plausible that teachers teach at schools in the community where they live.

We recommend that smokefree health promotion and cessation support could most efficiently target staff at low decile schools which serve low SES communities and schools with high proportions Māori and Pacific students.

Teachers smoke less

The results show that teachers who smoke can adapt their smoking behaviour to cope with smoking bans at work in the following ways:

- changing when they smoke in a day
- reducing how much they smoke daily
- not smoking daily.

Most teachers who smoked did not smoke during work hours and fewer cigarettes in total were smoked on a work day than a non-work day. The teachers in this study reported a pattern of smoking which suggests that, on usual work days, they shift to binge smoking before and after school. These findings are consistent with research on the adaptations smokers make to conform to smokefree legislation (Glover, 2000; National Research Bureau, 1996). "Efficient smoking," that is, deeply inhaling (Glover, 2000) and genetic variation in the rate of metabolising nicotine (Benowitz, 2009) allows some smokers to maintain low blood nicotine levels and stave off withdrawal symptoms with minimal cigarettes per day.

Since the 1970's, tobacco consumption (CPD) per smoker has trended downwards (MoH, 2006b). In 2006, most people who smoked in NZ were categorised as "light" smokers (that is, smoked between 1-15 cigarettes daily), although research suggests

self-reported consumption is under-reported by approximately 10% (Easton, 1995). Under-reporting is likely to be particularly relevant amongst people who consume loose tobacco because the number of cigarettes rolled is less easily tracked than factory made cigarettes (Glover, 2000).

Non-daily smoking

We found a high number of non-daily smokers. Furthermore the proportion of *daily* smokers (63%) was notably lower (at 91% and 90% respectively of current smokers) than that reported in the New Zealand Health Survey and the New Zealand Tobacco Use Survey (MoH, 2008b, 2009). The New Zealand census for example, has indicated reduced daily smoking prevalence over time. As the census does not currently obtain information about non-daily smoking, it is unclear whether there has been a corresponding increase in people who smoke on a non-daily basis. We are unable to assess whether the high number of teachers, who smoke non-daily, in any way reflects a pattern particular to teachers as a professional group, or if it is an effect of restrictions on smoking more broadly in New Zealand society. However, elsewhere "intermittent smoking" has been identified as an increasingly common smoking pattern, which appears to be associated with smokefree restrictions (Shiffman, 2009). These findings highlight the importance of tracking non-daily smokers.

We found contradictory results between the two traditional indicators of nicotine dependence. The average time from waking to first cigarette smoked suggests high dependency while the average number of cigarettes smoked per day was low.

Standard measures of nicotine dependence such as the Fagerström Test for Nicotine Dependence (FTND) (Heatherton, Kozlowski, Frecker, Rickert, & Robinson, 1989) may not be as relevant in the current NZ climate as they once were where, because smoking is now relatively socially unacceptable and smokefree restrictions are well-developed. Glover (2000) highlighted concerns over the validity of using the full FTND for measuring nicotine dependency in NZ smokers, suggesting TTF and CPD may be the only items of value. Enhanced smokefree legislation since 2000 may render the remaining items unstable. For example, teachers may be smoking within half an hour of waking because they are unable, or at least restricted, to smoke during the working day due to smokefree environments restrictions.

The weakness of CPD as a measure of dependence has been demonstrated in a study by Scragg, Wellman, Laugesen and DiFranza (2008) who discuss "autonomy over smoking" (DiFranza et al., 2002). In Scragg et al's study of Yr 10 students, they found autonomy diminished by almost half in the participants who smoked less often than monthly. Foulds et al (2006) proposes that night-smoking is a better indicator of nicotine dependence after finding this to be a stronger predictor of poor cessation treatment outcome than TTF and more recently, of TTF and CPD (Bover, Foulds, Steinberg, Richardson, & Marcella, 2008). Future research could further examine the loss of autonomy in relation to, and night-smoking as a measure of dependence.

Non-daily smoking challenges established knowledge about the biochemical and physical nature of nicotine dependency and withdrawal. Simply put, pleasurable pharmacologic effects of nicotine underlie addiction to smoking, and nicotine dependency is maintained by the need to relieve unpleasant symptoms which occur in

the absence of nicotine (Benowitz, 2009). Most smokers are likely to need to smoke at least daily to maintain the pleasurable effects of nicotine (Jaakkola et al., 2003).

The high proportion of teachers in our study who smoke on a non-daily basis constitute a distinct group of smokers who deserve closer examination. We propose two related ways of thinking about this group. The first emphasises the role of non-nicotine aspects that drive smoking behaviour (Rose, Behm, Westman, & Johnson, 2000). Sensory cues for example, such as the feeling of cigarette smoke in the throat and chest has been shown to be a desirable component of smoking for some smokers (Westman, Behm, & Rose, 1996). Behavioural cues, such as smoking with friends who smoke or smoking in certain social situations, as well as the association of smoking with certain moods (both good moods and bad) can also be powerful conditioned prompts that serve to maintain smoking behaviour (Glover, 2000). Sensory/behavioural cues are reinforced by the pairing with pharmacologic actions (Benowitz, 2009). Whereas smokefree restrictions may sufficiently override behavioural intentions to smoke at school in some teachers, sensory/behavioural cues may still act as triggers to smoke in non-restricted settings.

The second way to explain the behaviour of non-daily smokers, is to view their behaviour as consistent with what we currently understand about nicotine dependency and cessation. We hypothesise that non-daily smokers are smokers 'forced' into periods of unintentional quitting. It is possible that unintentional quitters are likely to have low or irregular CPD and experience a less traumatic nicotine withdrawal syndrome. This would allow them to respond to smoking restrictions by not smoking, but with no commitment to permanently quit. They might also have the genetic metabolism conducive to sustaining longer periods of nicotine abstinence.

We recommend research investigates possible differences in response to cues to smoke and potential genetic differences between unintentional temporary quitters and intentional quitters.

Teachers' support for strengthening smokefree-related policies

Sixty two percent of the teachers in our study supported price increases to tobacco products and 76% supported the licensing of tobacco retailers. This is consistent with recent research showing a similar of level of support among the NZ public: 65.6% supported that there be fewer tobacco retailers; 64% supported increased tax on tobacco with the extra money going to help smokers to quit (Thomson et al, 2010a; Thomson et al, 2010b). In this study, consistent with the Thomson et al reports, there was significant variation in support from teachers depending on their smoking status, with teachers who smoke indicating lower support for both statements than teachers who were ex- or never smokers. Smokers, of course would be most affected by such policies. Higher support for tobacco price increases and licensing of retailers can be expected from ex- and never smokers.

Teachers as role models

Most of the teachers in this study, irrespective of smoking status, acknowledged their role in influencing students' smoking attitudes and behaviour. This is consistent with research by Newman (1971). However, like Newman, we also found that teachers, who smoked, were much less likely to agree that a teachers' personal smoking example is of any relevance. Teachers, who smoked, were also less willing to agree that their smoking status affected their appropriateness to teach about smoking. Research suggests that students are sensitive to the double-standards of teachers who smoke but also advocate a smokefree stance (for example, Bewley, Johnson, & Banks, 1979; Crawford, 2001). Moreover, an indirect effect has been proposed of teachers' smoking on students' impressions of adult norms and acceptable social behaviour (Johnson, Bewley, Banks, Bland, & Clyde, 1985).

The contradictory but concurrently held beliefs of their capacity to influence students' smoking attitudes and behaviour, while negating the influence of their individual smoking behaviour, suggests that some teachers who smoke may be in a state of cognitive dissonance (Stone & Fernandez, 2008). Chen and Winder (1985) explained their findings that teachers rejected the influence of their smoking behaviour, by suggesting that teachers who smoke and who feel unable to stop may harbour feelings of guilt, and may actively seek to protect themselves from blame for being poor role models. Bittoun (personal. communication, 2009) uses the term "akrasia" to capture the mix of cognitive dissonance and lack of willpower characteristic of this state. Cunningham, Selby and Faulkner (2007) note how people who smoke can adopt a defensive stance when faced with messages that their smoking has negative consequences.

There was high support from all teachers, regardless of smoking status, for the statement that smoking is a person's own business. This finding could be explained by the teachers' need to define boundaries associated with being a role model. Many indicated a sense of responsibility to their students, but many were also keen to separate their personal lives from their professional identity. Claiming the "personal right" to smoke might also reveal assimilation of Tobacco Industry positioning of smoking as an "individual adult choice" (British American Tobacco (New Zealand) Limited, 2010). It could also be an indicator of poor understanding of the addictiveness of nicotine and loss of autonomy that results. Dependence on nicotine is a recognised disorder defined in the *Diagnostic and statistical manual of mental disorders*, fourth revision (DSM-IV), and withdrawal from nicotine has adverse behavioural affects (American Psychiatric Association, 1994). Four out of five smokers would not smoke if they had their life over again (MoH, 2009a). It could also be that even if there was acceptance that smoking is an addiction, being addicted to a drug is seen to be a private issue.

Teachers who smoke may also be in a state of akrasia (acting contrary to their beliefs), they may feel some guilt/whakamaa as a result and could react defensively if approached in a manner insensitive to this.

This is important information for interventions designed to assist schools with smokefree issues (outlined in this report) or promoting cessation to school staff. Smoking prevention programmes going in to schools might experience resistance or scepticism, as was found by the Keeping Kids Smokefree intervention (Charlier et al, 2009).

A recurrent theme overlapping attitudinal statements dealing with the role of teachers as models of smoking attitudes and behaviour, was that teachers should not smoke in front of students and that students therefore need not know that a teacher smokes. Research indicates that children are aware of teachers smoking regardless of whether teachers smoked openly or discreetly (Bewley, Johnson, & Banks, 1979). The exact mechanisms by which children acquire smoking behaviour modelled by adults in their environment are complex. Even where teachers assume they are not seen smoking by the children or young people they teach, the smell of smoke on teachers, however inadvertently may act to legitimise smoking.

Teachers' role in teaching about smoking

As a group, teachers in this study were reluctant to take a greater role in teaching about smoking, and teachers were divided about where their role in teaching about smoking sat in relation to the role of parents. Throughout our survey, teachers expressed concerns about the breadth of the curriculum, and the constraints upon their time. This sense of being over-burdened is something administrators and policy-makers should be mindful of to ensure that teachers are not alienated and deterred from becoming part of the overall strategy to reduce smoking uptake by young people. Providing smokefree education teacher training may be an avenue where teachers can feel better supported, which may reduce the burden associated with teaching about smoking.

Teacher training in smokefree education

Just over half the teachers in our study agreed that tobacco prevention curricula should be included in teacher training. Kura kaupapa Māori teachers were most likely to support this training. Given the high smoking prevalence amongst Māori youth (Paynter, 2009) and amongst Māori in general (MoH, 2008b) it is encouraging that most kura teachers recognise the need for support to effectively provide smoking education to their students.

More generally, some teachers indicated that specific training would improve their delivery of smokefree education. Inadequate teaching materials can weaken the conveyance of smokefree teaching, whilst teacher training in this area should be seen as another resource to enhance the conveyance of smokefree education (The GTSS Collaborative Group, 2006). Poor smoking prevention teacher training has been attributed to teachers avoiding delivering smokefree education (Frydman & Lynn, 1993). If teachers felt more adequately equipped with smokefree teaching materials, information and skills, fewer may want to call upon external providers to deliver this aspect of the curriculum.

Teachers who were current smokers were less supportive of smokefree education training for teachers than were ex- or never-smokers. In a previous study (Chen & Winder, 1985), teachers who smoked were found to be resistant to participating in student smoking education programmes. Chen and Winder (ibid) hypothesised that these teachers were responding to feelings of guilt and concerns about criticism of their smoking behaviour. Such feelings and concerns could also deter teachers who smoke from supporting smokefree education training for teachers.

We found similar proportions of teachers across teaching levels supported smokefree education training, although smoking education training may be perceived as less

relevant for some teachers than for others. As previously discussed, evidence indicates optimally educating primary and intermediate school aged children preceding and during a period of high experimentation. At secondary school, smoking education is largely understood to be the domain of specialist health teachers, although there is scope to integrate such education into other curriculum areas.

We recommend including training in prevention of smoking uptake in teacher training for primary and intermediate school teachers, and as an available option to secondary school teachers.

Teachers' relative ranking of smoking

Studies in the 1980's indicate that primary and intermediate school teachers ranked smoking as less important to teach students than some health topics, such as, food nutrition, personal hygiene and cleanliness, and safety and first aid, but more important than sex education, alcohol, and drugs (Calman, Carmichael, Deans, & Calman, 1985; Wilcox & Gillies, 1981). The importance assigned to smoking in these studies varied as a function of the age of the children the teacher taught; with teachers of older children ranking smoking higher than teachers of younger children. Our findings, particularly relating to primary and intermediate school teachers, reflect those found in these earlier studies. One explanation for the findings could be that because most NZ primary school students do not smoke and therefore are unlikely to present as a key disciplinary issue for primary school teachers. The sharp incline in student smoking experimentation during intermediate school years could explain why intermediate teachers ranked tobacco as a greater concern than alcohol or other drugs.

Secondary school teachers are more likely to over-estimate the health risks of other drugs relative to tobacco. Secondary school teachers may perceive that cigarette smoking is a gateway many of their students have traversed, and thus their attention is focussed on other drugs. Moreover, alcohol, another legal, easily accessible drug which is at least as likely to be used by secondary school students, was ranked as the drug of greatest concern by secondary school teachers. In-service training workshops could educate secondary school teachers about the relative danger of smoking in comparison with other health risks.

One reason for the relative low ranking of smoking as a concern for secondary school teachers is that teachers of high school students have been shown to perceive smoking as more of a disciplinary issue than a health concern (Nutbeam, 1987). Breaches of the SFEAA were described most by secondary school teachers, occurring mostly amongst students during school time. Breaches by parents and other adults on secondary school grounds both during and outside school hours were also frequently reported. Enforcing the SFEAA is a daily, ongoing effort for some teachers at some schools. The association between cigarette smoking and enforcement efforts can only serve to amplify the perception of smoking as a disciplinary issue, and could influence the low relative weight attributed to smoking as a student health problem by teachers at this level. Strong, consistent school-wide support to promote greater compliance with the SFEAA may ease the burden of responsibility felt by some teachers for monitoring student smoking.

The likely consequence of low prioritisation of smoking as a concern is that teachers will assign a correspondingly low emphasis to smokefree education.

The availability heuristic is a mechanism proposed to influence the way in which people perceive health risks (Krewski et al., 2006). This mechanism describes how high media coverage of an event causes people to believe the event is more likely to occur (Combs & Slovic, 1979). Sporadic yet on-going media coverage of the "P epidemic" including the involvement of a young well-known New Zealander is highly sensational. Alcohol use and abuse specifically by teenagers also graphically features sporadically in the media. Reference to this may very likely affect secondary schools teachers' likelihood to overestimate the risk of P and alcohol to their students.

Relative ranking of tobacco as a concern may further be influenced by the nature of tobacco marketing. Tobacco is marketed openly and sold alongside confectionery in New Zealand diaries and supermarkets. As social marketing analyst Gerard Hasting notes, unlike with heroin, we disseminate health messages saying smoking is dangerous, yet allow point of sale advertising and the sale of cigarettes alongside confectionery. Gerard Hastings (personal communication, March 2009) indicates that "we have to provide an environment which confirms the country's anti-smoking norms" or risk health messages about smoking being diluted.

Unsolicited free text comments concerning the close relationship between some of the proffered concerns and the difficulties in ranking them are worth noting. These comments raise some concerns about the extent to which the items can be discriminated from each other. Discriminatibility is a requirement for ranking to be a suitable tool (Russell & Gray, 1994). Alternatively, participants who struggle with this forced choice method may have been "non-differentiators," (p. 90) that is, not prepared to undertake difficult yet achievable discriminations between ranking items.

We recommend investigating strategies for promoting the recognition of student smoking as a concern of relative importance, specifically amongst secondary school teachers. To this end, we recommend in-service workshops for teachers on preventing uptake of smoking.

Schools/ECCs

Compliance

Perceiving smoking as normal is associated with youth smoking initiation (Reid et al., 1995). Smoking is more likely to be perceived as normative where non-compliance with smokefree environment restrictions occurs, whether this is by students, teachers or members of the wider school community. Darling, Reeder and Waa (2006) in their study of primary schools' implementation of the SFEAA, found that compliance problems related mainly to controlling compliance outside of school hours. This is still the case. Teachers in this study reported that breaches of the SFEAA often occur outside of school hours and that expecting them to monitoring smoking 24 hours a day, 7 days a week was neither reasonable nor possible. This likely explains the low levels of perceived total compliance found in this study. Controlling smoking by members of the public who use school premises as a thoroughfare outside of school hours is not realistic. However, in cases where non-compliance occurs at school sporting events or when school premises are hired to members of the public, a greater commitment by school/ECC management, to clearly state smokefree requirements, could be expected. For example, some schools may need to place greater emphasis on ensuring smokefree reminders are clearly included and explained in any contracts

with people leasing school/ECC premises. School/ECC smokefree signage may need to be reviewed and improved so that signage conveys clearly that the school grounds are totally smokefree at ALL times. If total compliance (i.e. 24 hours a day, seven days a week) is considered to be a desired and achievable goal, observing the SFEAA beyond school hours is an area where there is substantial scope for improvement.

We recommend enhancing school wide smokefree reminders, for example, clearly stated school signage and smokefree clauses in lease agreements where applicable.

Overall, compliance was generally high across teaching levels, school classification, decile rating and residential region. A small number of teachers reported their school/ECC were smokefree only "some" or "none of the time" (6%). These were mostly teachers of secondary or low decile schools. In contrast with the overall sample (discussed in previous paragraph) for this subgroup, most of the breaches occurring during school hours by students. Higher reports by secondary school teachers of non-compliance were most likely due to more secondary school students smoking than students at other school levels (MoH, 2006a). An earlier study of NZ secondary schools, which analysed data collected prior to the amended smokefree law, concluded that having a smokefree school policy was not related to students' smoking prevalence (Darling, Reeder, Williams, & McGee, 2006 (data analysed in 2002)). The SFEAA has not eradicated the problem of students smoking clandestinely at school. Student observation of the SFEAA needs on-going attention, and our findings suggest that some schools may need support with this.

Many teachers in our study acknowledged that monitoring student smoking, whether they liked it or not, was part and parcel of their role as teachers. Some teachers in some schools, however, require greater support to do this at a management level, with self-explanatory signs and training in uptake prevention. Research with teenage smokers suggests that where school smokefree rules are variable and poorly enforced, smoking is made "easy and tempting" (Balch et al., 2004, p. 13). It is possible that smokefree policies are only effective at inhibiting uptake among children when they are consistently observed and reliably enforced across the school.

We recommend providing greater support to teachers and schools where necessary to enforce student compliance with SFEAA.

While teachers almost unanimously agreed that schools have a responsibility to ensure that school grounds are smokefree, and that teachers have a responsibility for ensuring students don't smoke at school, they less readily acknowledge that teachers are responsible for ensuring compliance with the SFEAA by anyone other than students. Teachers are particularly disinclined to monitor the smoking of other staff members and students' parents/whānau.

Nationally, smoking prevalence rates vary by level of deprivation with the highest rates occurring amongst the most deprived (Statistics NZ, 2008). Our finding of poorer perceived compliance amongst lower decile schools may be related to smoking being more prevalent amongst these school communities. This trend has been observed in other NZ studies (Darling, Reeder, Williams et al., 2006; Hill et al., 2003). Schools in low decile communities, which have stronger pro-smoking norms, are likely to require greater assistance to enforce smokefree policies. As suggested by

Reeder and Glasgow (2000) this assistance could include "adult quit programmes" for teachers and parents/whānau. It would be more effective however, to provide such support within a multi-faceted programme that offered cessation support to the wider community and challenged community tolerance of smoking around children and in their environs (Reid et al., 1995).

We recommend that cessation support be offered to low decile school staff within a broad programme of cessation promotion in their communities.

Location for staff to smoke

In addition to higher non-compliance generally and greater visibility of staff smoking reported, a higher proportion of teachers from decile one and two schools reported that their school had suggested a location for staff to smoke during school hours. There are at least two possible explanations for this. The first is that greater pro-smoking norms in the broader school community in combination with greater tolerance of smoking by senior school management may increase the probability that a school will have an informal designated staff-smoking area. The second explanation is that the higher smoking prevalence of teachers in these schools drives the need for a smoking location. Of the smoking locations some were on school/ECC premises and therefore in contravention of the SFEAA and directly compromises the intent of the SFEAA to remove adult models of smoking from schools/ECCs. Further, it undermines attempts to enforce compliance among students (Kumar et al., 2005; Trinidad et al., 2005).

Advising students not to smoke

Considerably more secondary school teachers than primary school teachers had advised students not to smoke. Advising students not to smoke was reported more commonly amongst teachers of lower decile than higher decile schools. A much greater percentage of kura kaupapa Māori teachers compared with private school teachers advised students not to smoke.

Comments provided to the question "Have you ever personally advised a student at your school not to smoke?" suggests that it was interpreted in two ways: either in terms of advising students who smoke not to smoke, or advising students, who don't smoke, not to start. Secondary school and kura kaupapa Māori teachers, along with teachers at lower decile schools were more likely to advise students who smoke, not to smoke, which suggests a higher prevalence of smoking amongst students at these schools. This interpretation is corroborated by other findings in our study. The second interpretation suggests that teachers from these schools are more proactive than others in directing students not to smoke. Comments from different teachers bore out both explanations.

Just over 14% of teachers, most of whom were primary school teachers, considered their students to be too young to be advised against smoking. These teachers may have responded in this way because few had students who smoke. However, smoking initiation is a process which evolves over time, and which involves the development of attitudes and perceptions of smoking. As it is likely this process begins well ahead of actual smoking uptake, early education about smoking may assist in disrupting this process (Leventhal & Cleary, 1980). As mentioned on page 81 (section "Teacher training in smokefree education"), we therefore recommend providing teacher training in smokefree education to primary school teachers.

Local communities

Perceived visibility of staff smoking

Student smoking prevalence is associated, either directly or indirectly, with exposure to teachers' smoking, and the perception of smoking as normative (e.g. Chen et al., 2006; Poulsen et al., 2002). One of the aims of the SFEAA is to reduce children's and young people's exposure to adult smoking role models in schools/ECCs. Unfortunately, there is no measure to compare the pre-SFEAA and post-SFEAA rate of student exposure to visible teacher smoking. We also only measured teacher's perceptions of this. It is problematic for Reducing Smoking Initiation objectives (Health Sponsorship Council, 2005), if students are seeing teachers smoking in similar proportions as suggested by those visible to the teachers in our study.

Kura kaupapa Māori teachers reported one of the highest rates of total perceived compliance with the SFEAA, but they also reported the highest rate of perceived visibility of staff smoking outside school boundaries. This finding lends support to the supposition that smokefree school policies may increase the social modelling of smoking outside controlled areas (Wold, Currie et al., 2004). Smoking in highly visible areas close to school/ECC boundaries may have other consequences: in addition to modelling smoking behaviour to children, visible teacher smoking may promote pro-smoking norms amongst the wider school community, making enforcement of the SFEAA amongst parents/whānau more difficult.

Higher perceived visibility of staff smoking outside decile one and two schools is consistent with findings of lower compliance and higher prevalence of staff smoking amongst such schools. High rates of 'visible staff smoking' outside the most socio-economically disadvantaged schools compounds the risk to children who are the most vulnerable to smoking initiation. These students are most in need of smokefree role models and norms. Our findings, relating to compliance and visibility, support targeting cessation support within schools which serve more deprived communities (see section Compliance, on page 98, and, e.g. Hiscock, Pearce, Barnett, Moon, & Daley, 2009).

Government smokefree policies, and Government/non-government involvement in smokefree initiatives

Extend smokefree environments

The results suggest support, from teachers at least, for broadening the reach of the SFEAA to restrict smoking immediately outside school/ECC gates. It is recommended that this be done especially given the high proportion of 'visible staff smoking' in the current study, and past findings of an association between the perceived visibility of adult smoking and student smoking prevalence (Poulsen et al., 2002).

We recommend extending the reach of the SFEAA to include restricting smoking immediately outside school/ECC gates.

Health promotion activities

Health Promoting Schools

There was high recognition of the HPS programme with on average, 70% of primary, intermediate and secondary school teachers reporting that their school was a HPS. We were unable to compare this finding with the MoH HPS data, as the latter was incomplete for the period covering the TASS survey. Almost one-fifth of teachers did not know if their school was a HPS.

Fruit in Schools

Similar proportions of teachers from decile one and two, primary and intermediate schools reported receiving FiS support to those registered with the MoH (Fruit in School data collected by the Ministry of Health, is correct as at September, 2008). FiS specifically includes a smokefree component, one of four health-related foci. As the targets of this initiative are primary and intermediate schools, where most if not all teachers would be expected to deliver each component of the FiS foci, we would expect teachers to be actively aware of their involvement.

FiS support from the MoH is aimed at decile one and two, primary and intermediate schools. Teachers at school outside these parameters may not be aware of the FiS programme. More than half the teachers who reported receiving FiS support taught at institutions that were not decile one or two primary and intermediate schools. It is possible that many of these false positives indicate schools that generally promote healthy eating, and this was taken to be what was inferred by our question. Unsolicited comments associated with the question support this supposition.

Educating kids about smoking

Across teaching levels, intermediate school teachers were most likely to teach smokefree education. The importance of educating students during intermediate school years is evidenced by the incline in experimentation by students during intermediate school years (Scragg, Appendix C). However, smoking initiation is a process which occurs over time, and is influenced by attitudes towards smoking acquired long before experimentation (Leventhal & Cleary, 1980) then smokefree education should also be concentrated prior to the period of high experimentation. In light of this, it is of concern that primary school teachers were least likely to teach about smoking. This finding may be explained by the reliance upon external providers to teach about smoking.

Resources

The LET website was by far the most heavily used and most widely recognised of the websites. LET provides both an outreach education programme, available to primary and intermediate schools, and website teaching resources. The TASS survey did not differentiate between teachers' use of LET as an outreach programme and as a website resource. Walker and Darling (2007) found that more than 90% of NZ primary schools surveyed used external agencies to provide smokefree education. The LET was overwhelmingly nominated as the external agency most utilised by schools in that study. Based on this finding, it is likely that many of the teachers in the current study who reported using LET resources were referring to the use of the outreach

programme. This assumption is consistent with participants' comments throughout the TASS survey. Our findings suggests that some primary and intermediate school teachers, who are responsible for teaching about smoking rely solely on LET to deliver tobacco education, whilst under-utilising other resources, such as, LungFish. It is worth noting that exclusive use of an external agency to provide smokefree education contravenes recommendations that such providers only be utilised as a support to school delivered curriculum based education (Ministry of Youth Development, 2004).

The heavy utilisation of the LET highlights the need for this programme to be evaluated. Walker and Darling (2006) investigated tobacco education generally in NZ primary schools in 2004, and found such evaluation lacking. Most teachers in the current study said they would be less likely to trust resources developed with funding from the tobacco industry, which suggests that teachers were unaware that LET received funding from British American Tobacco (BAT) until recently. This lack of knowledge about a resource, so extensively relied upon to teach our children about smoking, is of concern, and further highlights the need for evaluation. Evaluation could determine the value of LET's materials and ascertain if they have been updated or amended since LET discontinued receiving funding from BAT. Our survey did not ask teachers about their schools use of the He Papa Pounamu Foundation, an organisation which targets Māori and aims to address youth smoking. BAT is the founding funder of that organisation (British American Tobacco New Zealand, 2005). Extrapolating from the findings as they relate to BAT and LET, it is likely teachers are unaware of the current relationship between BAT and resources they might use.

Knowledge of the LungFish website was poor. Since the TASS survey was conducted, LungFish went off-line, pending evaluation (personal communication Kath Blair, 7th April, 2009).

The Smokefree schools website had recently been reconstructed. It offers teaching resources relevant to school children of all ages, including in te reo Māori. While this resource was utilised more extensively than the LungFish website, almost half of the teachers involved in smoking education did not use it.

Of the three resources nominated, Smokefree schools best meets the smokefree education needs of secondary school teachers, and it was the most commonly used resource. However secondary teachers' use of this resource was still less than either primary or intermediate school teachers.

We recommend existing smokefree education resources be evaluated to ensure the efficacy and integrity of the teaching materials and content. This is particularly relevant to outreach programmes such as LET which used to receive tobacco company funding.

Using and suggesting other smokefree resources

Secondary school teachers reported using a wide range of other smokefree education resources at much greater levels than teachers at other teaching levels. It is feasible, primary and intermediate school teachers perceive the nominated resources, specifically LET, as sufficient for the age groups of the students they are teaching.

The breadth of the resources used by teachers illustrates the resourcefulness of the teachers in our study. Despite this, the extent of teachers suggesting further resources implies an unmet need particularly amongst secondary school teachers for relevant

teaching materials. Access to satisfactory teaching materials has been identified as a significant ingredient in delivering effective anti-tobacco curricula (The GTSS Collaborative Group, 2006), and poor resources have been reported by teachers as a barrier to teaching about smoking (Distefan, Gilpin, & Pierce, 2000).

We recommend there be a review of teachers' needs for smokefree education materials.

What relevance do these findings have for Māori?

The SFEAA (2003) is underpinned by principles of equity for groups such as Māori, who are disproportionately affected by tobacco smoking (although this is not specifically stated as an objective). Such principles are consistent with New Zealand health strategies, including the New Zealand Health Strategy and the National Tobacco Control plan (MoH, 2000, 2004). Those strategies have specific objectives of Māori health documents, such as, Whakatātaka Tuarua (Minister of Health and Associate Minister of Health, 2006), and with the principles of the Treaty of Waitangi concerned with the protection of and equitable outcomes for Māori. The current project was designed to produce results of relevance to Māori. Māori were well represented in this survey, accounting for 40% of teachers surveyed.

Kura kaupapa Māori teachers were most likely to report 'visible staff smoking' and to indicate that cessation support was offered to staff by their kura. These findings suggest that Māori students' exposure to adult smoking models, in the school context, is disproportionately high. That cessation support is widely offered indicates that kura environments are proactively trying to address this problem. These findings strongly support our recommendation to focus cessation support in specific communities, particularly Māori.

Few differences between the Māori and non-Māori teachers in our study were found (see Appendix O).

The data indicates (not tested) that the SFEAA may have been associated with a greater reduction in smoking prevalence amongst Māori compared with non-Māori teachers in our study. Edwards, Gifford, Waa, Glover, Thomson & Wilson (2009) found similar indications of a greater impact of the SFEAA on Māori: exposure to SHS in the home may have decreased more in Māori households containing one or more smokers; and, Māori responded to the new law with increased calls to the national Quitline service.

How these findings relate to the objectives outlined in the Framework for Reducing Smoking Initiation

The fundamental goal of the Framework for Reducing Smoking Initiation is to "Reduce…[the]…incidence of New Zealanders becoming addicted smokers" (Health Sponsorship Council, 2005, p.20). There are five primary objectives associated with this goal; the findings of the TASS report largely concern Objectives 3: Denormalise tobacco use; and 4: Positive identity development (see Figure 12).

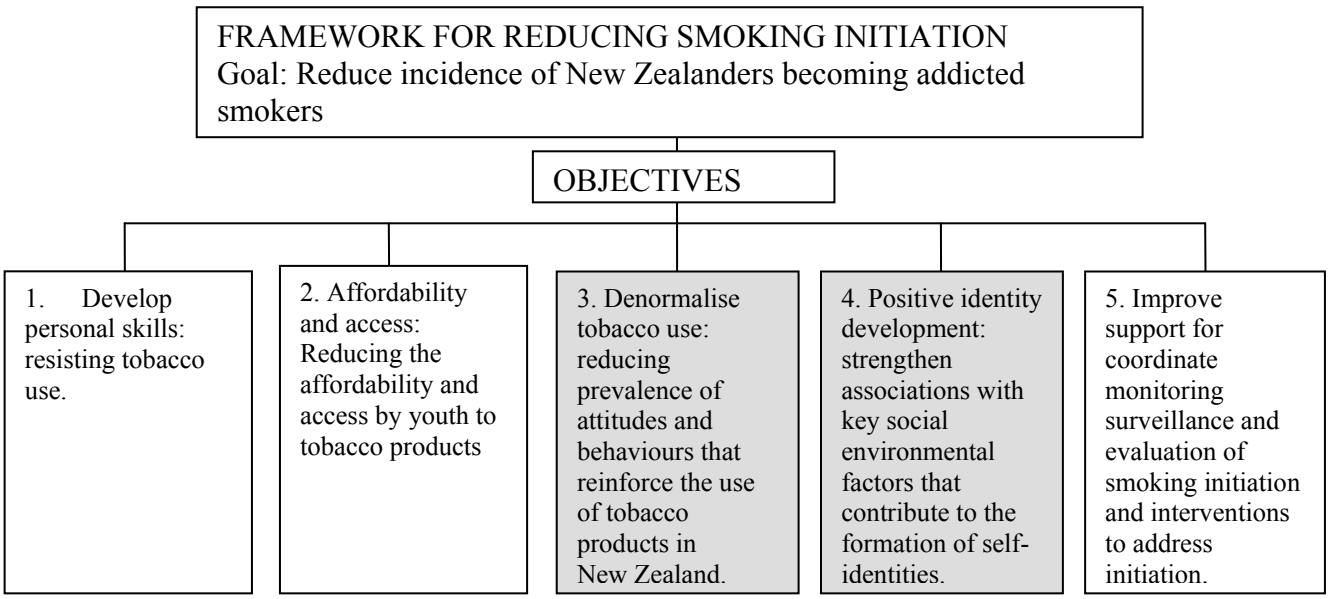

Figure 12: Goal and objectives of Framework for Reducing Smoking Initiation

Our results have particular relevance to a number of the proposed strategies and sub-strategies to achieve these objectives.

Strategies within Objective 3 include "increasing the number of smokefree settings in the community" and "developing anti-tobacco attitudes among young people."

Sub-strategies to achieve the former include "supporting schools to promote smokefree messages" by helping them "develop comprehensive tobacco control programmes." Results from the TASS study suggest smokefree messages are not being successfully transmitted across some school communities, and there is a heavy reliance, in some school sectors, on external providers of tobacco education programmes which have not been fully evaluated.

Further, our findings regarding the visibility of staff smoking outside of school/ECC gates suggest support for the need to "raise community [and in this case, specifically teachers'] awareness regarding smoking in front of children and role modelling." "Increas(ing) the number of positive smokefree role models" is also a strategy proposed to achieve the objective of denormalising tobacco use. Additionally findings concerning the visibility of teachers smoking, along with non-compliance of the SFEAA, have relevance for one of the strategies proposed to achieve Objective 4,

namely to "Reduce exposure to smoking behaviour in key social environments that influence the development of youth identity."

Finally, our recommendation to provide cessation support for teachers who smoke is consistent with sub-strategy 3.1.6, aimed at increasing the number of smokefree workplaces with the view to denormalising tobacco use.

Limitations

Although more than 70% of the teachers who were invited to participate in the TASS study did so, there could still be a non-response bias. Our response rate does not necessarily guarantee a representative sample of teachers across NZ, particularly in consideration of "low-responding subgroups" (Barclay, Todd, Finlay, Grande, & Wyatt, 2002, p. 110). For example, amongst the teachers who responded, there were considerably fewer Māori teachers who smoke given the prevalence of smoking among Māori teachers. This proportional under-representation was particularly pronounced given that we over-sampled Māori.

Under-representation of people who smoke has been noted in other studies (e.g. Galaif et al., 1996). Laugesen (2009) suggests that as smoking becomes less socially acceptable, people who smoke "opt out" (p. 80) of participating in surveys which require them to acknowledge their smoking status. This is likely to be especially applicable to participation in surveys such as ours, which focuses on smokefree issues. Such surveys are likely to be more intimidating to smokers than responding to surveys with a broader non-health research focus (e.g. the NZ Census), which may contain only a single question about smoking.

Social desirability bias, the tendency to under-represent socially undesirable behaviour and traits, and over-represent socially acceptable ones (Nederhof, 1985), may have effected the responses of teachers who did participate. Such a bias may have potentially affected responses to all questions in our survey which asked about smoking-related behaviour and attitudes (e.g. school compliance, personal smoking behaviour) and ranking health concerns.

CONCLUSIONS

The primary purpose of this research was to identify teachers' attitudes to smokefree issues such as, the impact of the SFEAA on teachers, their schools' compliance with it, and, teaching young people about smoking, both directly and indirectly.

The research also sought to compare the knowledge, attitudes and behaviour of teachers who did not smoke with those who did.

What impact did the SFEAA have on teachers who smoked? This research suggests that a great deal of quitting has been occurring. However, some teachers who smoked just adapted their smoking and avoided quitting. Reducing the number of cigarettes smoked, and changing *when* cigarettes were smoked were the most recorded changes made to teachers' smoking behaviour since the SFEAA was implemented. The governments' goal to reduce overall smoking prevalence is not helped by reduced consumption unless it is en route to quitting (Glover & McRobbie, 2008). Motivation to quit is high among teachers if high rates of quitting behaviour can be taken as an indicator. Thus we recommend enhanced promotion of and improved access to effective cessation support for teachers who smoke. This study supports targeting cessation support at schools which serve communities of low socio-economic status, or school communities with large populations of Māori or Pacific peoples, where smoking prevalence and the risk of youth initiation is disproportionately high.

In addition to reduced consumption, our study of teachers, who have been specifically affected by the SFEAA, highlights the need for developing a better understanding of those people who do not smoke daily. This pattern of smoking is particularly relevant as this group of smokers may increase as smoking becomes less socially acceptable and greater restrictions are placed upon smoking behaviour. The risk is that smoking consumption among this group is moderated only by tobacco controls (price, smokefree environment restrictions, contexts where smoking is socially unacceptable) i.e. extrinsic factors not intrinsic factors - and if controls are relaxed consumption among this group will rise in direct proportion. Evidence for this hypothesis can be seen in the documented direct relationship between consumption and increases in the excise tax on tobacco (Jha & Chaloupka, 2000).

Are schools compliant with the SFEAA? Based on teachers' perceptions, most schools are compliant with the SFEAA most of the time. A small percentage of schools, particularly low decile and secondary schools, need help to review and address the barriers to compliance. Staff smoking outside school grounds but within visible range of students was reported more by kura kaupapa Māori teachers, but was perceived to be occurring by nearly a third of all teachers. Seeing teachers smoking directly undermines reducing smoking initiation objectives to denormalise smoking. It is an unintended negative consequence of the SFEAA if students seeing teachers smoking has increased as has occurred in other areas (Wold, Currie et al., 2004). Policy and programme options for addressing this need to be considered.

Does smoking status affect attitudes? The current study supports previous research (Chen & Winder, 1985), which found that teachers' smoking status affects their smoking related attitudes. Additionally, this study has found that teachers generally maintain that smoking is a person's own business. This widely held belief discounts the addictiveness of nicotine. This belief, along with the low relative ranking of

smoking as a concern by some groups of teachers, indicates the need for education about the harmfulness of smoking and its addictiveness. As Richard Edwards (2009) notes, rather than framing smoking in industry terms as a "risky but enjoyable and normal activity," the emphasis should be on smoking as a dependence on a "highly addictive and highly toxic product.…. And because they are highly addictive and hazardous, it follows that society (and therefore government) must take all possible steps to protect children and young people from anything that may encourage them to smoke."

Do teachers have a role in teaching young people about the harms of smoking? Irrespective of smoking status, teachers agreed in high numbers that they can influence students' smoking related attitudes and behaviour. Developing this sense of influence, amongst teachers who smoke, may increase their acceptance that their smoking behaviour sets a poor example to students. While teachers, who smoke, have been found to be more resistant to restrictive smokefree policy (de Moor et al., 1992), those who hold stronger beliefs of their exemplar role have been shown to be more accepting of school smokefree restrictions (Galaif et al., 1996). The proportion of teachers who smoked in this study who did acknowledge the influence of their smoking behaviour provides a foundation from which to promote cessation to teachers. Motivational interviewing could usefully guide the design of empathic approaches to teachers who smoke, whilst increasing awareness of the discrepancy between beliefs and action, and providing accessible acceptable solutions.

Finally - Teachers are an important occupational group who could be willingly mobilised to assist the reducing smoking initiation programme. Teachers who smoke have high motivation to quit and could be efficiently targeted for increased cessation assistance. Low decile schools and schools with higher proportions of Māori and Pacific Island student populations need more tobacco control support.

SUMMARY OF RECOMMENDATIONS

We recommend that:

- Cessation support should be more readily accessible to teachers who smoke. Public health nurses who already go into schools on a regular basis could usefully be encouraged to become Quit Card providers.
- Smokefree health promotion and cessation support could most efficiently target staff at low decile schools which serve low SES communities and schools with high proportions Māori and Pacific students.
- Research investigates possible differences in response to cues to smoke and potential genetic differences between unintentional temporary quitters and intentional quitters.
- Including training in prevention of smoking uptake in teacher training for primary and intermediate school teachers, and as an available option to secondary school teachers.
- Investigating strategies for promoting the recognition of student smoking as a concern of relative importance, specifically amongst secondary school teachers. To this end, we recommend in-service workshops for teachers on preventing uptake of smoking.
- Enhancing school wide smokefree reminders e.g. clearly stated school signage and smokefree clauses in lease agreements where applicable.
- Providing greater support to teachers and schools where necessary to enforce student compliance with SFEAA.
- Cessation support be offered to low decile school staff within a broader programme of cessation promotion in their communities.
- Extending the reach of the SFEAA to include restricting smoking immediately outside school/ECC gates.
- Existing smokefree education resources be evaluated to ensure the efficacy and integrity of the teaching materials and content. This is particularly relevant to outreach programmes such as LET which has previously received tobacco company funding.
- There be a review of teachers' needs for smokefree education materials.

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APPENDICES

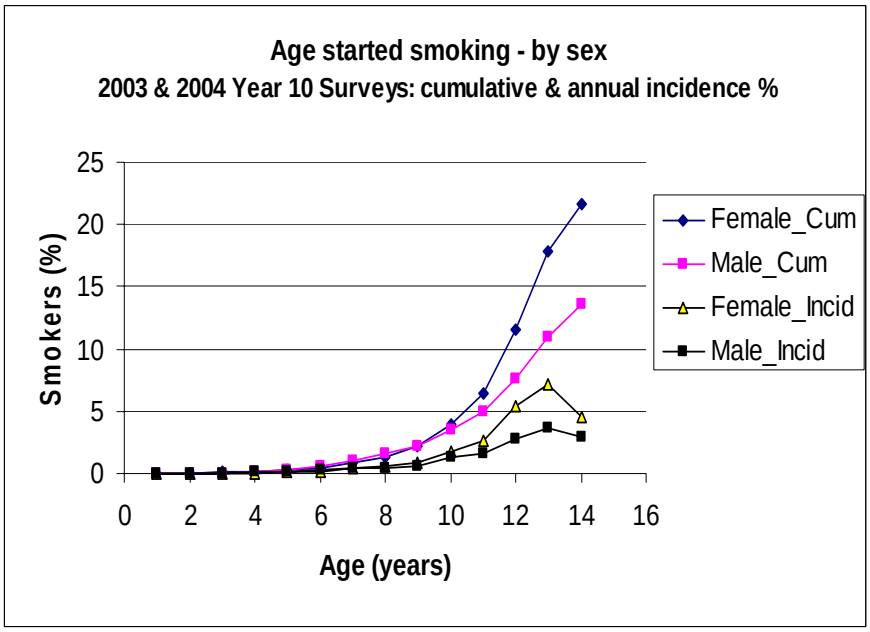
Appendix A: Glossary of Terms

Board of Trustees	Elected representatives responsible for governance, control, and management of a school
School Decile	Measure indication socioeconomic status of school community. Decile 1 equals the 10% of schools with the lowest socioeconomic status, while decile 10 equals the 10% of schools with the highest socioeconomic status
Kura	School, education
Kura Kaupapa	School operating under Māori custom and using Māori as medium for instruction
Nicotine Replacement Therapy	Smoking cessation medication that works by replacing nicotine, thereby reducing withdrawal symptoms
Quitline	Nationwide smoking cessation service providing behavioural support by telephone and heavily subsidised nicotine replacement therapies
Reo Rumaki	Māori language immersion classes
Rudolf Steiner	Schools based on the educational principles of Rudolf Steiner, a holistic approach encompassing physical, emotional, intellectual and spiritual aspects of students
Whakamā	Shame, embarrassment

Appendix B: List of Abbreviations

ASH	Action on Smoking and Health
ASH-KAN	Assessment of smoking history, knowledge and attitudes of nurses in NZ
BAT	British American Tobacco
BoT	Board of Trustees
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
CPD	Cigarettes per day
CTCR	Centre for Tobacco Control Research
CTRU	Clinical Trials Research Unit
DARE	Police and community foundation delivering skills for life education; formerly focused on drug and alcohol resistance education
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Volume four
ECC/EC	Early Childhood Centre / Early Childhood
FADE	Foundation for Alcohol and Drug Education
FiS	Fruit in Schools
FTND	Fagerstrom test for nicotine dependence
GNK	Gone Not Known
GSPS	Global School Personnel Survey
GTSS	Global Tobacco Surveillance System
HF	Heart Foundation
HPS	Health Promoting Schools
KISS	Kiwi Integrated Science Series
KKS	Keeping Kids Smokefree Study
LET	Life Education Trust
MoH	Ministry of Health
NRT	Nicotine Replacement Therapy
NZ	New Zealand
NZHS	New Zealand Health Survey
NZTUS	New Zealand Tobacco Use Survey
PE	Physical Education
PEN	Prize Entry Number
RTLB	Resource Teacher: Learning and Behaviour
RYO	Roll Your Own, loose tobacco
SCT	Social Cognitive Theory
SES	Socioeconomic Status
SFEAA	Smoke-free Environments Amendments Act (2003)
SHS	Second Hand Smoke
SRMI	Staff Role Model Index
TASS	Teachers Attitudes to Smoking Survey
TTF	Time to First cigarette
WHO	World Health Organisation
Yr	Year

Appendix C: Scragg R. (2006). ASH Year 10 2003-2004 age started smoking by sex



Appendix D: Questionnaire

Teachers' Say About Smokefree

Teachers' Say About Smokefree Questionnaire

Prize Entry No: _____

Please indicate (/) which of the following apply to you.

1. What level do you mainly teach? Please select ONE only.
   - 1 ◯ Early childhood education – (0 to 5 yrs) – Go to Q13
   - 2 ◯ Primary school level – (Y0-Y6)
   - 3 ◯ Intermediate school level – (Y7&Y8)
   - 4 ◯ Secondary school level – (Y9-Y13)
   - 5 ◯ Tertiary level – Go to end
   - 6 ◯ I teach equally at more than one of these levels (please specify) _____
   - 7 ◯ Other/Not applicable (please specify) _____ Go to end

2. Are you currently employed as a teacher?
   - 1 ◯ Yes
   - 2 ◯ No, but I have taught in New Zealand schools in the last 5 years – Go to Q12
   - 3 ◯ No, and I have not taught in New Zealand schools in the last 5 years - Go to end

3. How many years altogether have you worked as a teacher in New Zealand?
   - 1 ◯ Less than 5 yrs
   - 2 ◯ 5 years or more

If you teach at more than one school, for the following questions please refer to the MAIN school you teach at.

4. Is the school you teach at classified as a/an:
   - 1 ◯ State school
   - 2 ◯ Kura Kaupapa Māori or Māori medium school
   - 3 ◯ Independent (or private) school
   - 4 ◯ Other (please specify) _____

5. Please circle the decile rating of the school you teach at? 1 2 3 4 5 6 7 8 9 10 I don't know 11

6. Is your school a "Health Promoting School"?
   - 1 ◯ Yes
   - 2 ◯ No
   - 3 ◯ Not Applicable
   - 4 ◯ I don't know

7. Is your school a "Fruit in Schools" school?
   - 1 ◯ Yes
   - 2 ◯ No
   - 3 ◯ Not Applicable
   - 4 ◯ I don't know

8. To what extent do you organise, plan and/or teach about cigarette smoking?
   - 1 ◯ I do this a lot
   - 2 ◯ I do this sometimes
   - 3 ◯ I do not do this at all – Go to Q12
   - 4 ◯ Other/Not applicable (please specify) _____ Go to Q12

9. Have you used any of the following resources or websites for organising, planning and/or compiling teaching materials about cigarette smoking?

A)

- 1 ◯ Yes
- 2 ◯ No
- 3 ◯ I don't know of it

B)

- 1 ◯ Yes
- 2 ◯ No
- 3 ◯ I don't know of it

c) 

1 ◯ Yes
2 ◯ No
3 ◯ I don't know of it

10. Have you used any other resources for organising, planning and/or teaching about cigarette smoking?
1 ◯ Yes - Go to Q10a
2 ◯ No - Go to Q11

10a Please specify what these other resources are.

11. Can you think of any other resources or materials that would better help you organise, plan and/or teach about cigarette smoking?
1 ◯ Yes - Go to Q11a
2 ◯ No - Go to Q12

11a Please specify what these other resources or materials are.

12. Thinking about the age group of children that you usually teach, imagine you had to prioritise the following concerns in order of seriousness. Rank them from A-G, where A is of highest importance. (Please use each letter only once).

Bullying/violence	☐
Overweight/Obesity	☐
Marijuana smoking	☐
Cigarette smoking	☐
P and other drugs	☐
Alcohol drinking	☐
Sex	☐

13. For each of the statements, please select: Agree, Disagree, or Don't know.

	Agree	Disagree	Don't know
Teachers can influence the smoking attitudes and behaviour of students.	1◯	2◯	3◯
Parents, rather than schools, should teach children about smoking.	1◯	2◯	3◯
Whether or not a teacher smokes is entirely her/his own business.	1◯	2◯	3◯
People should have to have a license to sell tobacco like they do with alcohol.	1◯	2◯	3◯
Teachers should be more active in teaching students about smoking.	1◯	2◯	3◯
People should not be allowed to smoke directly outside school/kura/early childhood centre (ECC) gates.	1◯	2◯	3◯
Teachers should set a good example to students by not smoking.	1◯	2◯	3◯
The price of tobacco products should be increased.	1◯	2◯	3◯
Flavours are added to cigarettes to make them more attractive to children.	1◯	2◯	3◯
Students are less likely to take education about smoking seriously from a teacher who is a current smoker.	1◯	2◯	3◯

Please write any comments you may wish to add here:

14. Have you or your school/kura/ECC used educational resources about smoking which were developed with funding by a tobacco company?
1 ◯ Yes
2 ◯ No
3 ◯ I don't know

15. Would you be less likely to trust such educational resources about smoking?
1 ◯ Yes
2 ◯ No
3 ◯ I don't know

16. Do you think that teacher training should include a section on smoking prevention? (For example, a module on the factors that encourage young people to be smokefree.)
1 ◯ Yes
2 ◯ No
3 ◯ I don't know

Please write any comments you may wish to add here:

17. In 2004, all schools/kura/ECC became smokefree by law 24 hours a day, 7 days a week. Are your school/kura/ECC buildings and grounds actually free of smoking (i.e. no smoking at all) 24 hours a day, 7 days a week:

1 ◯ All of the time? - Go to 18
2 ◯ Most of the time? - Go to 19a
3 ◯ Some of the time? - Go to 19a
4 ◯ None of the time? - Go to 19a
5 ◯ I don't know - Go to 19a

17 a Please give details: _____

18. Has your school/kura/ECC suggested a location where staff can smoke?

1 ◯ Yes
◯ On school/kura/ECC property (please describe) _____
◯ Off school/kura/ECC property (please describe) _____
2 ◯ No
3 ◯ I don't know

19. In the last 12 months, have you seen staff from your school/kura/ECC smoking outside, but within visible distance of the school/kura/ECC boundary, during work hours?

1 ◯ Yes
2 ◯ No

20.Does your school/kura/ECC offer any support to encourage staff to stop smoking?

1 ◯ Yes - Go to Q20a
2 ◯ No - Go to Q21
3 ◯ I don't know - Go to Q21

20a. What support have they offered? (Please select ALL that apply.)

◯ Incentives (e.g. money, vouchers, prizes)
◯ Stop smoking counselling
◯ Stop smoking products (e.g. nicotine patches/gum)
◯ Other (please specify) _____

Early Childhood Teachers, please go to Q 23

21. Who do you think should be responsible for: (Please select ALL that apply)	Principal & other senior management	Teachers	Board of Trustees	Auxiliary staff (such as teacher aides and administration staff)	Schools shouldn't have to be responsible for this	Other (please specify below)
ensuring STUDENTS don't smoke on school premises?	◯	◯	◯	◯	◯	◯
ensuring STAFF members don't smoke on school premises?	◯	◯	◯	◯	◯	◯
ensuring PARENTS don't smoke on school premises?	◯	◯	◯	◯	◯	◯

Comments: _____

22. Have you ever personally advised a student at your school not to smoke?

1 ◯ Yes
2 ◯ No
3 ◯ Not applicable – the students at my school are too young
4 ◯ Other (please give details) _____

The following questions ask about the impact of the smokefree law on schools/kura/ECC and teachers.

23. Have you ever smoked cigarettes?

1 ◯ Yes
2 ◯ No - Go to Q39

24. Have you smoked at least 100 cigarettes in your lifetime?

1 ◯ Yes
2 ◯ No

25. How often do you smoke?

1 ◯ I do not smoke now - Go to Q34
2 ◯ Daily
3 ◯ At least weekly – Go to Q28
4 ◯ At least monthly - Go to Q 28
5 ◯ Less than monthly - Go to Q 28

26. How many cigarettes per day do you smoke?

1 ◯ 10 or less
2 ◯ 11-20
3 ◯ 21-30
4 ◯ 31 or more

27. How soon after you first wake up do you smoke your first cigarette?

1 ◯ Within 5 minutes
2 ◯ Within 6-30 minutes
3 ◯ Within 31-60 minutes
4 ◯ After 60 minutes

28. What type of cigarettes do you usually smoke?

1 ◯ Roll-your-own (Rollies)
2 ◯ Factory-made
3 ◯ Both

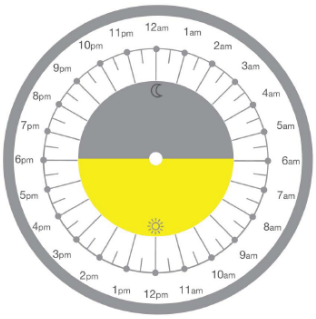
29. Do you smoke during school/kura/ECC hours?

1 ◯ Yes
2 ◯ No – Go to Q31
3 ◯ Not applicable, I do not currently teach - Go to Q34

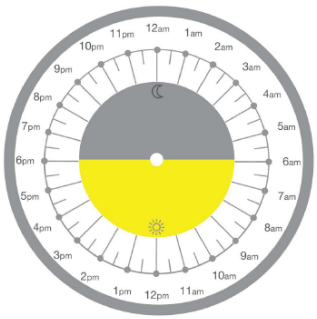
30. Where do you usually smoke during work hours? Please select ALL that apply.

◯ On school/kura/ECC premises (This includes smoking in a car in the school/kura/ECC car park.)
◯ Outside the school/kura/ECC boundary, but within 10 metres, including in a car within this distance (Ten metres is approximately the width of a netball court.)
◯ Outside the school/kura/ECC gates but more than 10 metres away
◯ Other (please specify) _____

31. Please mark on the clock below when you usually smoke each cigarette on a ***usual work day.***



32. Please mark on the clock below when you usually smoke each cigarette on a ***usual NON-work day.***



33. How confident are you that you would succeed at stopping smoking if you attempted to, on a scale from 1 (Not confident) to 7 (Very confident)?"
Please indicate on the scale:

1 — 2 — 3 — 4 — 5 — 6 — 7

34. Were you smoking 12 months ago?

1 ◯ Yes
2 ◯ No - **Go to Q39**

35. During the past year (12 months), have you ever tried to stop smoking?

1 ◯ Yes
2 ◯ No - **Go to Q39**

36. Please tick whether you have done any of the following in the past year. Please select ALL that apply.

◯ Called the Quitline (0800 778 778)
◯ Attended a programme to stop smoking
◯ Got help to stop smoking from the doctors
◯ Used NRT (Nicotine Replacement Therapy)
◯ Visited an online stop smoking website
◯ Other (please specify) _____

37. Were you smoking 5 years ago?

1 ◯ Yes
2 ◯ No - **Go to Q39**

38. In 2004, when schools/kura/ECC became smokefree by law 24 hours a day, 7 days a week, which of the following applied to you.

◯ I was not teaching 5 years ago - **Go directly to Q39**
◯ I cut down the amount I smoked
◯ I changed when I smoked (e.g. smoking more before and after work)
◯ I used nicotine replacement therapy (such as nicotine patches or gum) while at work to deal with nicotine cravings
◯ I tried to stop smoking
◯ I stopped smoking
◯ I changed from factory made cigarettes to loose tobacco, or increased the proportion of loose tobacco I smoked
◯ I made other changes to my smoking behaviour (please specify what these changes were)
_____
_____
◯ I made no change to my smoking behaviour

39. Which age group do you belong to?

1 ◯ 19 years or younger
2 ◯ 20-29
3 ◯ 30-39
4 ◯ 40-49
5 ◯ 50-59
6 ◯ 60 years or older

40. What is your gender?

1 ◯ Female
2 ◯ Male

41. Which ethnic group(s) do you belong to? Please select ALL that apply.

◯ New Zealand European/Pakeha
◯ Māori
◯ Samoan
◯ Cook Island Māori
◯ Tongan
◯ Niuean
◯ Chinese
◯ Indian
◯ Other (please specify)_____

42. In which Regional Council area do you currently live?

1 ◯ Northland
2 ◯ Auckland
3 ◯ Waikato
4 ◯ Bay of Plenty
5 ◯ Gisborne
6 ◯ Hawke's Bay
7 ◯ Taranaki
8 ◯ Manawatu-Wanganui
9 ◯ Wellington
10 ◯ West Coast
11 ◯ Canterbury
12 ◯ Otago
13 ◯ Southland
14 ◯ Tasman
15 ◯ Nelson
16 ◯ Malborough
17 ◯ Area outside region

If you have any further comments about any of the items in this questionnaire, please write them here:

_____
_____

The End!

Thank you – Kia Ora – Faafetai tele lava – Malo Aupito – Meitaki Maata – Fakaue lahi – Zse Zse. We appreciate your time and input.

Please re-enter your unique prize entry number: _____

Please return your questionnaire in the addressed envelope provided by September 30th, 2008.

Appendix E: Participant Information Sheet

THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES

Social & Community Health
SCHOOL OF POPULATION HEALTH
The University of Auckland
Private Bag 92019
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Teachers' Say About Smokefree

Teacher Participant Information Sheet

You are invited to participate in this study which aims to find out what teachers think about smokefree issues, such as the law that made all schools/kura/and early childhood centres (ECC) smokefree from 2004. This study is funded by the Ministry of Health. The research is being carried out by Dr. Marewa Glover, Donna Watson, Dr. Judith McCool, and Dr. Chris Bullen from the School of Population Health, University of Auckland, and Dr. Brian Adams from the National Heart Foundation.

Why are we doing this study?

Teachers work with children and young people every working day from pre-school to post-graduate level. Yet, there has been no nationally representative surveys asking you (teachers) for your opinion on the Smoke-Free Environments Amendment Act (2003) and its impact on you. Nor have you been asked for your thoughts on teaching children about smoking or other policies and interventions designed to prevent children from taking up smoking!

Better late than never – we want to know what you think. We believe your opinions need to be understood and considered by those who write policy and design smokefree interventions. We could not survey all 90,000 teachers, so just 2,000 teachers have been randomly selected and this should give a fair spread across the country. To make sure that we find out what Māori teachers think too, we have over-sampled from the Māori roll. We want to hear from the widest range of teachers: teachers who smoke, teachers who don't smoke, Māori, Pacific, Indian, Pākehā, men and women, new and old teachers, past and present teachers, primary school teachers, Catholic school teachers and kura kaupapa kaiako. Your participation is important.

There are no wrong answers, you are not obliged to answer every question in the questionnaire, and your responses are completely anonymous. Please also note that no-one at your place of employment knows you have been invited to participate in this study.

Why are we inviting you to do this questionnaire?

Your name has been randomly selected from a subset of the electoral roll of voters who listed their occupation as "teacher." We realise the electoral roll may be out of date and you may not be currently employed as a teacher. If you have worked as a teacher in the last 5 years then you may have experienced the changes brought about by the Smoke-Free Environments Amendment Act and we would like to hear from you about how it may have affected you. Even if you don't think this survey is relevant to you, we would still like you to return the questionnaire so we can account for all the invitations we sent out. Everyone who fills out and returns the questionnaire is eligible to go into a prize draw.

Do you have to take part in this survey?

No, your participation is entirely voluntary. However by taking part in this survey you could contribute to knowledge that may influence the health and well-being of other New Zealanders.

What is involved and how long will it take?

Participation involves completion of one questionnaire by September 30th, 2008, **either** online at www.yoursay.org.nz, **or** you can complete the paper copy enclosed with this Information sheet and return it in the self-addressed envelope provided, **or** if you would prefer to give us your answers by phone please call Donna Watson (d.watson@auckland.ac.nz) on (09) 373 7599 ext 89207, or

You may keep this page for your records.

Dr. Marewa Glover on 0800 285 284. In each case the questionnaire is the same, only the method is different. You should only complete the questionnaire using **one** of the methods.

It is estimated that the questionnaire will take up to 10-15 minutes to complete depending on, for example, the method you choose, and how many of the questions apply to you. The online questionnaire is likely to take less time than the paper copy because it will automatically miss out questions that are not relevant to you based on your responses.

Everyone who returns the questionnaire is offered the opportunity to enter a grand prize draw to win an Air NZ Mystery Break. To be counted in the draw for this and other prizes, put your prize entry number on your questionnaire. Your prize entry number is linked to our mailing list of names and addresses. As we receive returned questionnaires, the prize entry number will be checked against the mailing list, so we know who is eligible for prizes. This will also stop us from sending you a repeat questionnaire or reminder notices. The first 200 people whose questionnaires we receive with their prize entry number on it will automatically be eligible to receive either a double pass to a Sky City cinema, a $20 Warehouse voucher, or a smoke-free/auahi kore merchandise pack.

The prizes will be posted out as returned questionnaires are received. The grand prize winner will be drawn on October 3rd, 2008, from all returned entry forms, and winners will be notified by mail.

What about privacy?

Prize entry numbers will be added to the mailing list by a research assistant (who will be required to sign a confidentiality form). When questionnaires are returned, the researchers will give a list of prize entry numbers to the research assistant handling the mailing list. At no time will any identifying information be seen with the questionnaire. In this way we can ensure the responses to the questionnaires are anonymous.

Any quotes or citations from the questionnaire used in presentations, reports or publications arising from this research will be anonymous with any potential identifying details removed or changed. For example, we would not say, "a 30 year old Samoan woman working in a small area school in Rawene said…" in case even this amount of information inadvertently enabled readers to guess who this was.

All returned hard-copy questionnaires will be stored in a locked filing cabinet at the University of Auckland, School of Population Health for six years and then destroyed using the University document destruction service. All computer records will be password protected. The information will not be kept for use in any future research projects.

Research findings

Copies of reports or publications arising from the research will be supplied to the key informants who were consulted about the study design. The study results should be available on our website for you to download (www.yoursay.org.nz) after January 2009.

Contact persons

Should you have any concerns or complaints arising from your participation in this research you may contact Dr Marewa Glover or Associate Professor Peter Adams (Head of Department), through the Department of Social and Community Health, School of Population Health, University of Auckland, Private Bag 92019, Auckland, phone (09) 373 7599 extn. 86538.

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 extn. 83711."

Approved by the University of Auckland Human Participants Ethics Committee on 11 June 2008 for a period of 3 years. Reference Number 2008 / Q / 027.

You may keep this page for your records.

Appendix F: TASS mail-out schedule (and survey returns)

Mail-out	Date of mail-out	No. distributed	Surveys returned (up to and including the next mail-out date)	Return rate	Additional number of names removed from mailing list
Advance notice postcard	15/08/08	2,004	324 (online)	16%	3 (GNK)
1st postal survey	28/08/08	1679*/**	447 399 (paper) 47 (online) 1 (phone)	27%	10 8 (GNK) 2 (O/S)
Reminder postcard	10/09/08	1266	182 162 (paper) 20 (online)	14%	10 7 (GNK) 3 (O/S)
2nd postal survey	22/09/08	1067	185 156(paper) 28 (online) 1 (phone) 4 (duplicates)	17%	28 10 (GNK) 5 (O/S) 5 (NT) 5 (RML) 3 (SAC***)
3rd postal survey	6/10/08	873	282 281 (paper) 1 (online) 12 (duplicates)	32%	30 13 (GNK) 8 (O/S's) 4 (NT) 4 (SAC) 1 (RML)

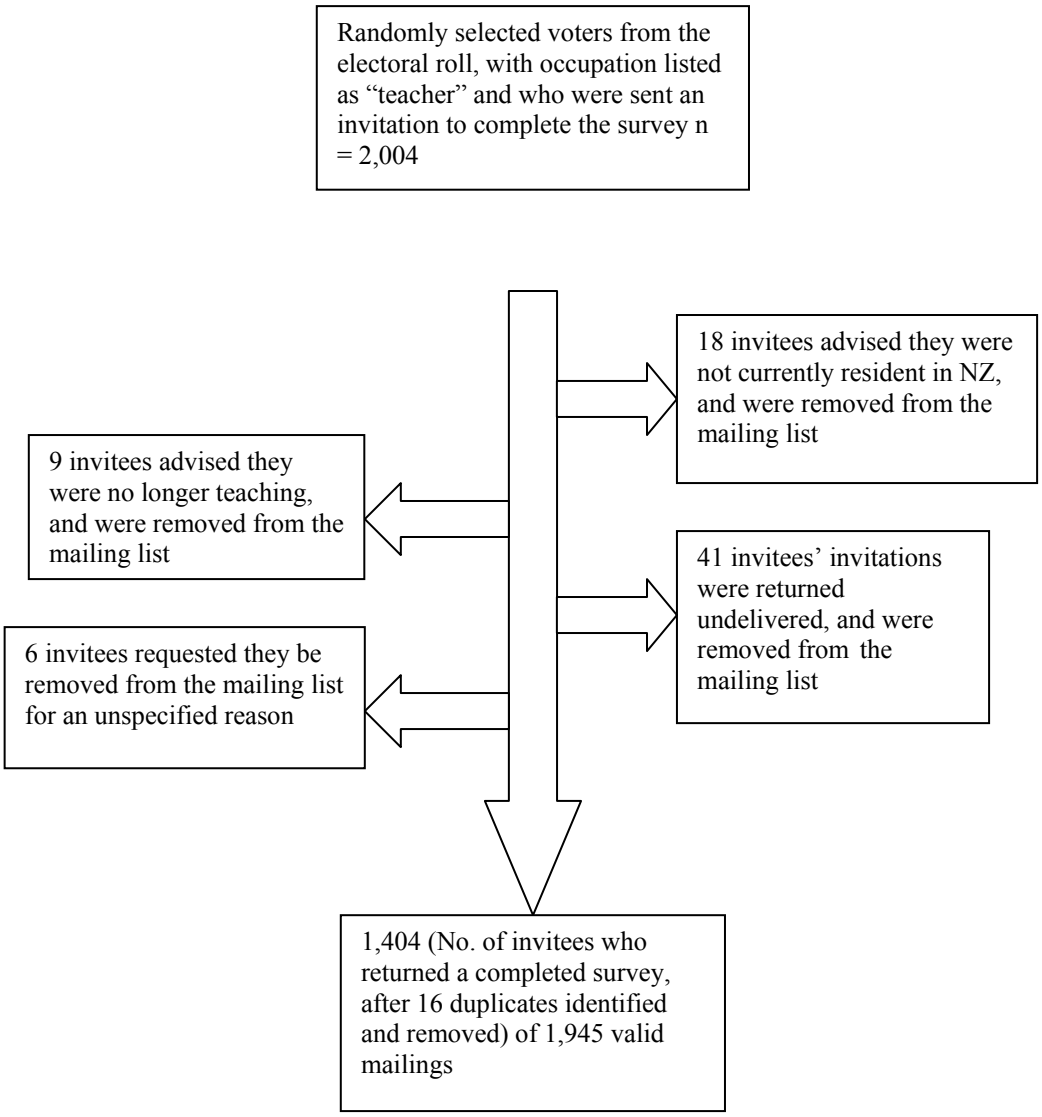
* Four invitees with overseas addresses were identified at the time of the 1st postal survey mail-out. These invitees were removed and replaced.

**Some survey returns overlapped subsequent mail-outs. While every attempt was made to keep the mailing list revised and up-to-date, the "No. distributed" does not total the previous number distributed minus the number received and removed.

***78 surveys were returned without an identifying Prize Entry Number. Without this identifier, invitees who had completed these surveys would not have been removed from the mailing list revisions, and were therefore sent subsequent mail-outs.

Key:
GNK = Gone, not known; O/S = Overseas; NT = no longer teaching; RML= requests to be removed from mailing list;
SAC = advised that survey had already been completed and returned.

Appendix G: Participant flow chart and calculation of response rate (observed frequencies)



Of 2004 voters identified as potential participants and mailed invitations to participate, 41 invitations were returned undelivered. We were advised that a further 18 invitees were not currently resident in New Zealand. This resulted in a total of 1945 valid mailings. Of these, a small number responded that they were not currently teachers (n=9) or that they did not wish to participate in our study (n=6).

Appendix H: Teachers' school classification by their school decile (weighted %)

Decile:	School classification:				
	State	Kura	Private	Other	Total
1 & 2	17	64	3	9	16
3 & 4	17	12	7	10	15
5 & 6	22	14	8	14	20
7 & 8	18	10	11	23	18
9 & 10	26	0	71	44	31
Total	100	100	100	100	100

Appendix I: Smoking status by ethnicity

	Current smokers			Ex-smokers			Never smokers			Total	
	Obsvd. freq.	Weighted freq.	%	Obsvd. freq	Weighted freq.	%	Obsvd. freq	Weighted freq.	%	Obsvd. freq	Weighted freq.
Māori	59	498	12	148	1,328	33	288	2,210	55	495	4,036
PI	4	128	12	6	156	14	23	816	74	33	1,100
Asian	0	0	0	2	70	4	27	1,818	96	29	1,889
European	47	2,306	7	179	8,659	26	444	22,580	67	670	33,545
Total	110	2,933	7	335	10,213	25	782	27,423	68	1,227	40,569

Design-based F(4.01, 276.69) = 4.3502 P = 0.002

Appendix J: Smoking status currently, one year and five years ago (weighted frequencies)

Current smoker

	Smoked 1yr ago		
5YrsAgo	Yes	No	Total
Yes	2,025	338	2,363
No	356	131	487
Total	2,381	470	2,850

Ex-smoker

	Smoked 1yr ago		
5YrsAgo	Yes	No	Total
Yes	993	1,623	2,616
No	207	6,614	6,821
Total	1,201	8,237	9,437

Never smoker

	Smoked 1yr ago		
5YrsAgo	Yes	No	Total
Yes	0	0	0
No	0	6,353	6,353
Total	0	6,353	6,353

The denominator included everyone who provided information for each of the three time points (i.e. current, one, and five years ago), a total of 18,640 participants.

Current smoking prevalence was calculated by dividing the number of teachers who smoked currently (2,850) by 18,640

The prevalence of smoking one year ago was calculated by dividing the number of teachers who smoked one year ago (2,381+1,201=3,582) by 18,640;

The prevalence of smoking five years ago was calculated by dividing the number of teachers who smoked five years ago (2,363+2,616=4,979) by 18,640.

The proportion of teachers who had recently started or resumed smoking was calculated by dividing the number of current smokers who smoked five years ago but not one year ago (338) by 18,640.

The proportion of teachers who had recently stopped smoking was calculated by dividing the number of ex-smokers who smoked one year ago (1,201) by 18,640.

Appendix K: Cessation behaviour in past 12 months of teachers who smoked one year ago (weighted frequencies)

Current smoker			
Smoked 1 year ago	Tried stopping in last 12 months		
	Yes	No	Total
Yes	1,251	1,130	2,381
No	82	0	82
Total	1,333	1,130	2,463
Ex-smoker			
Smoked 1 year ago	Tried stopping in last 12 months		
	Yes	No	Total
Yes	1,178	70	1,248
No	0	0	0
Total	1,178	70	1,248

The percentage of teachers who smoked 1 year ago and who had tried to stop smoking was calculated by dividing 1,251+1,178 by 2,381+1,248.

The percentage of teachers who had tried stopping in the last year who were now ex-smokers was calculated by dividing 1,178 by 1,251+1,178.

The percentage of teachers who smoked one year ago and still identified as current smokers, but who had tried to stop smoking in the last 12 months, was calculated by dividing 1,251 by 2,381.

Appendix L: Reported schools' use of educational resources developed with funding from a tobacco company by teaching level, school classification and decile rating (weighted %)

	Yes	No	Don't know	Total
	%	%	%	
Teaching level (n=1,081)				
Primary	2	48	51	100
Intermediate	4	41	54	100
Secondary	2	32	65	100
Other	0	43	57	100
Total	2	41	57	100
School classification (n=982)				
State	2	39	58	100
Kura	2	62	36	100
Private	1	39	59	100
Other	3	47	50	100
Total	2	40	57	100
School decile (n=904)				
1 & 2	5	38	56	100
3 & 4	1	44	55	100
5 & 6	2	38	60	100
7 & 8	2	41	56	100
9 & 10	1	42	57	100
Total	2	41	57	100

Appendix La: School teachers' distrust of educational resources developed by funding from a tobacco company by teaching level, school classification and decile rating (weighted %)

	Yes	No	Don't know	Total
	%	%	%	
Teaching level (n=1,076)				
Primary	64	12	24	100
Intermediate	73	10	18	100
Secondary	74	10	16	100
Other	96	4	0	100
Total	70	11	20	100
School classification (n=977)				
State	69	11	20	100
Kura	58	10	32	100
Private	65	14	21	100
Other	79	3	18	100
Total	69	10	20	100
School decile (n=900)				
1 & 2	66	9	25	100
3 & 4	73	11	15	100
5 & 6	72	10	17	100
7 & 8	67	13	20	100
9 & 10	72	9	19	100
Total	70	10	19	100

Appendix M: Is your school a Health Promoting School?

	Observed frequency	Weighted frequency	%
Yes	675	21226	67
No	74	2829	9
N/A	8	153	0
Don't know	211	7505	24
Total	968	31713	100

Appendix N: Is your school a Fruit in Schools school? (by teaching level and school decile) (weighted %)

	Fruit in schools														
	Primary (n=400)					Intermediate (n=113)					Secondary (n=326)				
	Yes	No	N/A	DK	Total	Yes	No	N/A	DK	Total	Yes	No	N/A	DK	Total
Decile	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1 & 2	74	24	0	2	100	66	31	1	1	100	27	56	3	13	100
3 & 4	22	68	2	8	100	6	91	0	3	100	19	52	9	19	100
5 & 6	12	68	2	17	100	11	70	0	19	100	17	47	4	33	100
7 & 8	11	80	0	9	100	2	77	0	21	100	17	46	1	36	100
9 & 10	9	66	4	21	100	7	66	0	27	100	7	63	0	29	100
Total	24	62	2	13	100	16	67	0	17	100	16	54	3	27	100

*Highlighted areas in columns show Yes responses from teachers who teach at schools which are ineligible to receive FiS support.

Appendix O: Māori vs non-Māori Comparison

Method

As participants selected from the Māori roll and from the general roll have a different selection probability, we used weighted analyses to adjust this when we compared Māori and non-Māori. The weight applied is associated with the smoking status of people in the electorate.

Results

Māori teachers were more likely to teach at schools with a decile one or two rating than non-Māori teachers (Table L1).

Table L1: School decile rating by Māori and non-Māori ethnicity of teachers

	Māori		Non-Māori	
	%	[95% CI]	%	[95% CI]
1&2	24	[18,31]	13	[10,18]
3&4	18	[14,23]	16	[12,20]
5&6	19	[15,24]	22	[18,26]
7&8	16	[12,21]	18	[14,22]
9&10	22	[16,29]	32	[25,38]
Total	100		100	

Design-based F(3.62, 249.75)=5.3197 P=0.0001

Māori teachers were significantly more likely to smoke five years ago then non-Māori teachers (Table L2). There was no difference in current smoking status between Māori and non-Māori. The reduction in smoking prevalence from five years to one year ago is greater for Māori than non-Māori teachers in our sample.

Table L2: Smoking prevalence currently, one year and five years ago (weighted %) by Māori and non-Māori ethnicity of teachers

	Māori		Non-Māori		p-value
	%	[95% CI]	%	[95% CI]	
Smoked five years ago	36	[29,43]	25	[21,31]	0.0184*
Smoked one year ago	24	[19,31]	19	[14,26]	0.2370
Current smoking	21	[16,28]	15	[11,21]	0.0868

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