Support for New Zealand's Smokefree 2025 goal and key measures to achieve it: findings from the ITC New Zealand Survey

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Abstract

Objectives: To assess support among smokers and recent quitters for the Smokefree New Zealand (NZ) 2025 goal and measures to facilitate its achievement.

Methods: Data from CATI interviews with 1,155 (386 Māori) smokers and recent quitters in Wave 1 (August 2016–April 2017) and 1,020 (394 Māori) in Wave 2 (June–December 2018) of the International Tobacco Control (ITC) NZ Survey.

Results: (Wave 2 unless stated): Almost all (95%) participants were aware of and more than half (56%) supported the smokefree goal. Support was highest (69–92%) for measures to reduce smoking uptake and protect children from exposure to secondhand smoke. Support was also high for other smokefree policies including mandated denicotinisation of smoked tobacco products (73%) and tobacco retailer licensing (70%, Wave 1). Support was lowest (<30%) for increasing the tobacco tax, but higher (59%) if additional revenue raised was used to help smokers to quit. Support for Smokefree 2025 and key measures to achieve it was generally higher among ex-smokers than smokers but mostly similar among Māori and non-Māori participants.

Conclusions: There is substantial support among smokers and ex-smokers for the Smokefree 2025 goal and many measures that could help achieve it.

Implications for public health: Implementing a comprehensive strategy to achieve Smokefree 2025 is likely to be acceptable among New Zealand's smokers and ex-smokers.

Key words: endgame, public health policy, tobacco control, public support

In October 2010, the Māori Affairs Select Committee of the New Zealand Parliament reported on its *Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori*.[1] The Inquiry was prompted by Māori concerned about the enormous adverse health impacts of tobacco use for Māori, and drew on input from multiple stakeholders including community leaders, iwi (Māori community members), researchers, health advocates and clinicians. The Committee's report made 42 recommendations to the government; the first of which called for the government to set a goal to make New Zealand a smokefree nation. In March 2011, the government responded by adopting the goal of making New Zealand smokefree by 2025.[2] In doing so, New Zealand became only the second country in the world to adopt a specific 'endgame' goal for the use of smoked tobacco products. The wording of the government's Smokefree 2025 goal was: " … to reduce the number of people smoking and tobacco availability to minimal levels, thereby making New Zealand essentially a smokefree nation by 2025".

Since 2011, successive governments introduced some limited interventions to help achieve the goal, although not in any organised or strategically planned fashion. The most prominent were annual above-inflation tobacco excise increases (every year since 2011). As a result, a pack of 20 cigarettes now costs around NZ$35 and is among the most expensive and least affordable in the world.[3,4] In addition, smoking in prisons was banned in 2011, a law prohibiting point-of-sale tobacco product retail displays was enacted in 2012, and standardised packaging and enhanced pictorial health warnings were introduced in 2018. However, many of the Māori Affairs Select Committee's recommendations have not been actioned,[5] including interventions to restrict the availability of smoked tobacco products and to reduce the palatability and addictiveness of cigarettes. Furthermore, mass communication campaigns have remained poorly resourced: government funding for such campaigns has actually decreased[6] and there has been no organised effort to promote or explain the smokefree goal to the public.

The government set mid-term targets towards the Smokefree 2025 goal. These were to reduce daily smoking by 2018 to 10%

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(from 16.3% in 2011)[7] in the adult population and to 19% (from 37.7% in 2011) among Māori and 11% (from 22.6% in 2011) among Pacific peoples (the groups with the highest smoking prevalence). In the absence of a strategic approach, these mid-term targets were missed. In 2018/19, adult daily smoking prevalence was 12.5% and considerably above mid-term targets among Māori (30.9%) and Pacific peoples (21.4%).[7] Smoking prevalence trends and modelling studies suggest that the goal will not be achieved by 2025, particularly for Māori and Pacific peoples.[8-10]

In response to slow progress in reducing smoking prevalence and lack of a government strategy for achieving the smokefree goal, in 2017, the New Zealand tobacco control sector developed the 'Achieving Smokefree by 2025' (ASAP) strategy. ASAP established a comprehensive evidence-based action plan for achieving Smokefree 2025,[11,12] and recommended actions in four areas, many derived from or building on recommendations in the Māori Affairs Select Committee report. Firstly, it advocated making smoked tobacco products less affordable through continued above-inflation tobacco excise increases and introducing a minimum price for tobacco products. It also recommended that additional revenue raised should be used to fund enhanced services to help smokers to quit in order to mitigate adverse impacts of tobacco price increases on disadvantaged smokers.

Secondly, the strategy proposed phased interventions to greatly restrict the availability of smoked tobacco products, including restricting the sale of tobacco products to about 300 licensed outlets (approximately 5% of the estimated current number of outlets).[13] Other proposed measures included prohibiting sales of tobacco products in on-licensed alcohol premises and reducing youth access by introducing a 'tobacco-free generation' policy[14] in which buying tobacco products would be legal only for people born before 1 January 2003.

Thirdly, the strategy recommended actions to make smoked tobacco products less palatable and appealing through prohibiting both additives (such as menthol) and design innovations that appealed to young people such as capsule cigarettes, and also less addictive by mandating very low nicotine content for all tobacco products.

Finally, the ASAP report recommended consolidating or intensifying current 'business as usual' measures. These included ensuring smokers have access to less-harmful alternative nicotine delivery products such as e-cigarettes, implementing standardised packaging and enhanced pictorial health warnings (completed July 2018), enhancing mass media and social media public education campaigns, increasing targeted smoking cessation advice and support, and extending smokefree environment legislation to include specific outdoor areas such as playgrounds and cars carrying children (legislation passed May 2020).

Investigating public and stakeholder support is an important component of assessing the acceptability, feasibility and legitimacy of potential legislative and policy interventions.[15,16] Exploring support among smokers and recent quitters is particularly important, as they are generally the most impacted by smokefree legislation and regulations. Investigating the views of Māori is essential as they are the indigenous people of New Zealand, whom the Crown has a Treaty obligation to protect. Māori have the highest prevalence of smoking among the main ethnic groups in New Zealand and are the most severely affected by the resulting adverse health impacts.[7,17,18] Furthermore, giving voice to the views of Māori is required in recognition of the role of Māori leaders and communities, including through the Māori Affairs Select Committee enquiry, in proposing a Smokefree Aotearoa goal and hence prompting the government to commit to the Smokefree 2025 goal.

The most recent investigations of the views of smokers on the Smokefree 2025 goal and possible measures to achieve it are from 2012 or 2014. These reports did not assess support for many of the ASAP strategy measures and did not investigate support among Māori.[19-22]

This study used a national-level survey to explore support among smokers and recent quitters for the Smokefree 2025 goal and key measures to facilitate its achievement.

Methods

Survey design and participants

Data came from smokers and recent quitters included in the first and second waves of the International Tobacco Control New Zealand (ITC NZ) Survey. The sampling frame for the 2016–17 (Wave 1) of the study was smokers and recent quitters identified from participants in the New Zealand Health Survey (NZHS) between 1 January 2015 and 30 June 2016. The NZHS is a nationally representative survey run by the Ministry of Health.[23,24] Wave 2 of the ITC NZ survey included Wave 1 participants who continued to participate in this longitudinal survey and replenishment participants to allow for loss to follow-up. Replenishment participants were recruited from smokers and recent quitters interviewed in the NZHS between 1 July 2016 and 30 June 2018.

Eligible participants from the NZHS were current smokers (smoked more than 100 cigarettes in their lifetime and currently smoked at least monthly) or recent quitters (quit in the last year at the time of NZHS interview) aged ≥18 years who had agreed to be contacted about further research projects. Sampling was stratified into five targeted groups: i) Māori current smokers (aged 18+); ii) Pacific current smokers (aged 18+); iii) younger current smokers (non- Māori, non-Pacific smokers aged 18–24); iv) older current smokers (non-Māori, non-Pacific smokers aged 25+); and v) recent quitters (quit within one year prior to NZHS interview). Our sampling scheme aimed to ensure that priority groups (Māori and Pacific, younger smokers, recent quitters) were recruited in sufficient numbers to provide good statistical precision for key sub-group analyses.

The Wave 1 sample of 1,155 included 910 smokers (326 Māori) and 245 ex-smokers (60 Māori). The Wave 2 sample of 1,020 included 726 smokers (308 Māori) and 294 ex-smokers (86 Māori). Overall response in Wave 1 was 27.6% and in Wave 2 was 19.8% among all eligible participants drawn from the NZHS sampling frame. Consent to participate was 41.5% among all successfully contacted eligible participants in Wave 1 and 32.5% in Wave 2. The Wave 2 sample comprised 587 returning (57.5%) and 433 replenishment participants (42.5%).

Data collection and questionnaire

We collected data through a Computer-Aided Telephone Interview (CATI) survey carried out from August 2016 to April 2017 (Wave 1) and June to December 2018 (Wave 2). The questionnaire included questions on (prompted) awareness and support for the Smokefree 2025 goal. As previous research had shown that understanding of the Smokefree 2025 goal is often poor and that support for the goal increases when its nature was explained, we asked about support

before and after stating the wording of the Smokefree goal. We also asked about support for most of the key measures recommended in the ASAP strategy, alongside others recently proposed by practitioners, researchers and advocates in New Zealand. Specific questions are provided in the results tables. The survey questionnaires are available on the ITC Project website: https://itcproject.org/surveys/survey-directory/?country=new-zealand.

In order to make stratified comparisons between demographic and smoking-related groups of interest, we also assessed age (stratified by age group, 18–24 and 25+ years), sex (male and female), ethnicity (Māori and non-Māori), an area-based measure of socioeconomic status[25] (quintiles of NZDep 2013, quintile 1 = low deprivation, quintile 5 = high deprivation), smoking status (daily smoker, non-daily smoker, recent quitter), and for current smokers their recent quitting history (quit attempt in last 12 months – yes/no).

The mean duration of the interviews were 77 minutes for smokers in both waves and 69 minutes (Wave 1) and 67 minutes (Wave 2) for recent quitters. Full details of the sampling and survey methods are available in the Wave 1 and Wave 2 ITC New Zealand Technical Report available online.[26,27]

Ethics review

Ethics review and approval were given by the University of Otago Human Ethics Committee (application number 15/126) and the University of Waterloo Office of Research Ethics (ORE #21211/30726).

Statistical analysis

Due to the stratified sampling design and the complex nature of the NZHS sampling frame, including differential recruitment by ethnicity, all reported analyses were adjusted using inflation sample weights. The reported results represent estimates for relevant populations of smokers and quitters in New Zealand. Weighted prevalence estimates were calculated using survey logistic regression models incorporating survey design information, including information from the NZHS sampling frame for strata (District Health Boards) and the primary sampling units (clusters, representing geographical meshblocks used in the NZHS sample) to adjust for survey design effects. Weights were calibrated based on the NZHS data for these populations: see Appendix E of the ITC NZL Wave 1 technical report and Appendix F of the ITC NZL Wave 2 technical report for full details.[26,27]

We present percentages with 95% confidence intervals for awareness and support for the Smokefree 2025 goal and proposed measures to achieve it among all participants in the ITC New Zealand Survey, and comparisons between key sub-groups (smokers vs. ex-smokers and Māori vs. non-Māori respondents). Results are presented from Wave 2 except where a question was only asked in Wave 1 of the survey. As not all respondents completed the entire survey (Wave 1 completion of whole survey n=1090, 94.4%; Wave 2 n=970, 95.1%) the presented analyses include responses from all participants who completed a given question. 'Don't know' responses have been excluded from all analyses.

Prevalence estimates for sub-groups are adjusted for age, sex, time in sample (whether respondent had participated in both waves or was a replenishment participant at Wave 2), and additionally for smoking status (smoker/ex-smoker) when comparing Māori and non-Māori, and for ethnicity (Māori/non-Māori) when comparing smokers and ex-smokers. These prevalence estimates are presented with their 95% confidence intervals (95% CI). Significance testing for differences in prevalence between sub-groups was conducted using the same adjusted models and control variables as the prevalence estimates: this equates to a hypothesis test of whether the model-adjusted absolute difference in prevalence is different from zero.[28] These estimates and between-group comparisons were conducted with the *rlogist* procedure in SAS-callable SUDAAN (version 11) to account for the complex survey design and weighting.

We investigated independent determinants of support for the Smokefree 2025 goal and for five of the key proposed policy measures among different demographic and smoking-related groups of interest by performing logistic regression analysis. Odds ratios (OR) are presented with their 95% CI. The fully adjusted model included: age group, sex, ethnicity, NZ Dep, smoking status and quitting history (smoker quit attempt in last 12 months – yes/no, recent quitter). These analyses were conducted in R 3.6.1 (R Institute, Vienna, Austria) using the *survey* package to account for the complex survey design.[2,24,26,27]

Results

Sample characteristics

The characteristics of the samples included in Waves 1 and 2 are summarised in Table A1 in the Supplementary material. More than 90% of participants were aged 25 years or over. Around 60% were female and 40% identified as Māori. Participants were mostly (more than 60% both waves) from the two most deprived quintiles of the NZDep scale. Just under half of smokers had tried quitting at least once in the last year. The proportion of quitters was larger in Wave 2 (28.8%) compared to Wave 1 (21.2%) because Wave 2 included smokers from Wave 1 who had quit smoking at the time of their Wave 2 interviews.

Awareness and support for the Smokefree 2025 goal

Table 1 shows awareness, support and attitudes towards the Smokefree 2025 goal among Wave 2 participants. Almost all (95%) participants were aware of the goal[9] and more than half (56%) supported it once its nature was explained (prompted support). Most (56%) participants had 'rarely' or 'never' noticed marketing about the goal, and almost half (47% agreed, 29% disagreed) agreed that more information should be provided about Smokefree 2025. About half (44%) of participants agreed the government should do more to achieve the Smokefree 2025 goal. Smokers were less likely to support the goal and agree with the need for additional actions to publicise or achieve it than ex-smokers. Findings were mostly similar for Māori and non-Māori, except that Māori participants were more likely (56% vs. 44%) to agree that there should be more advertising and information about Smokefree 2025.

Support for policy and regulatory measures for smoked tobacco products

Table 2 shows support for measures in the ASAP strategy and some related policy interventions. Support was greatest for measures designed to protect young people from smoking, such as banning smoking in cars (92%), raising the legal age of purchase to 21 years (69%) and stronger marketing campaigns designed to prevent young people from taking up smoking (73%). There was also strong support (78%) for the radical proposal to increase the minimum age of purchase of tobacco each year, a measure

that would create a 'tobacco-free generation' who would never be able to legally buy tobacco products.

There was substantial support for measures aimed at reducing the addictiveness and appeal of tobacco products by reducing their nicotine levels (73%) if nicotine could be obtained from alternative products such as e-cigarettes, and by removing additives and flavouring (54%).

Support for measures to regulate tobacco retailing or reduce the supply of tobacco products was also substantial, but varied widely for different measures. The strongest support was for licensing shops that sell tobacco products (70%). Almost half (43%) supported reducing by 95% the number of places that can sell tobacco products. More than half (55%) participants supported requiring shops selling tobacco products to be adult-only premises, and 62% supported ending tobacco product sales in bars. Almost half of participants (48%) supported the most radical proposal: to ban cigarettes and other smoked tobacco within 10 years provided the government provides assistance such as clinics to help smokers quit.

Finally, there was strong support for measures to prompt and help smokers to quit: 81% for requiring pack inserts giving information about quitting and 53% for increased government expenditure on media campaigns to promote quitting.

Support was weakest for proposals to increase tobacco excise taxes (26–27% support), although it was greater for removing duty-free allowances for tobacco products (50%). However, there was majority support (59%) for increasing tobacco tax if the additional revenue was used to promote healthy lifestyles and help smokers to quit (hypothecated tax increase).

For most measures, support was substantially and statistically significantly greater among ex-smokers compared to smokers. However, support was similarly high in these two groups for measures that targeted children and young people (raising purchase age to 21 years, tobacco-free generation and smokefree cars).

Support was mostly similar between Māori and non-Māori participants, with most differences not statistically signficant. An exception was higher support from Māori smokers and ex-smokers (compared to non-Māori) for several retailer-related measures, including gradual reduction in the number of stores selling tobacco, a requirement for retailer licensing and making stores selling tobacco products adult-only premises.

Table 1: Awareness, support and attitudes towards the Smokefree 2025 goal (Wave 2 participants).

Measure	Total	Smokers	Ex-smokers	Māori	Non-Māori
	% (95% CI)	% (95% CI)#	% (95% CI)#	% (95% CI)#	% (95% CI)#
Aware of Smokefree 2025 (% Yes)	94.8 (92.1, 96.5)	94.6 (91.5, 96.6)	95.7 (91.9, 97.8)	91.4 (84.5, 95.4)	96.4 (93.5, 98.0)
Unprompted support for Smokefree 2025 (% Support/strongly support)	48.4 (43.9, 52.8)	42.1** (37.1, 47.4)	67.4 (59.5, 74.4)	48.4 (40.7, 56.2)	48.4 (43.1, 53.6)
Prompted support for Smokefree 2025 (% Support/strongly support)	56.0 (51.6, 60.3)	50.6** (45.4, 55.7)	73.8 (66.4, 80.1)	54.6 (46.7, 62.2)	56.5 (51.3, 61.6)
% Rarely or never noticed advertising of information about Smokefree 2025 goal in last 6 months	56.3 (52.1, 60.5)	56.0 (51.0, 60.9)	57.4 (49.6, 64.9)	50.3 (42.9, 57.8)	58.5 (53.3, 63.5)
Agree with more advertising or information telling people about Smokefree 2025 (% Agree/strongly agree)	46.9 (42.7, 51.1)	43.2** (38.3, 48.1)	58.7 (51.1, 65.8)	56.4** (48.9, 63.6)	43.5 (38.6, 48.5)
Do not agree with more advertising or information telling people about Smokefree 2025 (% Disgree/strongly disagree)	29.0 (25.3, 33.0)	31.6** (27.1, 36.4)	20.9 (15.6, 27.3)	24.4 (18.6, 31.3)	30.8 (26.2, 35.7)
Agree Government should do more to achieve Smokefree 2025 (% Agree/strongly agree)	44.4 (40.3, 48.6)	38.3** (33.5, 43.4)	63.5 (56.0, 70.5)	48.5 (40.8, 56.3)	42.9 (38.0, 48.0)
Disagree Government should do more to achieve Smokefree 2025 (% Disgree/strongly disagree)	45.9 (41.7, 50.1)	52.0** (46.9, 57.0)	26.7 (20.9, 33.4)	40.9 (33.8, 48.4)	47.7 (42.7, 52.7)

Notes:

 # %s for smokers vs ex-smokers and Māori vs non-Māori are adjusted for age, sex, time in sample (number of waves completed by participants), and for smoking status for the Māori and non-Māori subgroups, and ethnicity for the smoker and ex-smoker subgroups.

*** statistically significant difference from comparison group (p<0.01)*

Questions in shaded row were used in logistic regression analysis presented in Table 3

Predictors of support for Smokefree 2025 goal and regulatory and policy measures for smoked tobacco products

Table 3 shows the results of the logistic regression analysis investigating predictors of support for the Smokefree 2025 goal and five of the key policy measures recommended in the ASAP strategy among a range of demographic and smoking-related factors.

Differences by age group, sex, ethnicity and NZDep were mostly small and variable in direction between measures, and the confidence intervals included increased or reduced support compared to the reference group. The only exception was support for tax increases, which was around 2.5 times higher among 18–24-year-olds compared to older participants (aOR for ≥25-year-olds = 0.42, 95%CI 0.20-0.84).

There were more substantial differences in support by smoking and recent quit attempt status. For support for the Smokefree 2025 goal and for hypothecated tax increases, reducing retailer numbers and a ban on additives, there was 2–3 times higher support among smokers who had tried to quit in the last year and 3–4 times higher support among recent quitters compared to smokers who had not tried to quit recently. For raising the minimum purchase age to 21 years and reducing the nicotine content of smoked tobacco products, the differences were smaller: less than two times greater support among smokers who had tried to quit in the last year and recent quitters.

Discussion

This study is the most comprehensive investigation of support among smokers and ex-smokers for the Smokefree 2025 goal and proposed measures to help achieve it. Around half of smokers and three-quarters of ex-smokers expressed support for Smokefree 2025. There was also substantial support for many of the measures that have been proposed to help achieve the goal. This was particularly strong for actions designed mainly to reduce smoking uptake among adolescents and young people and to protect children from the effects of exposure to secondhand smoke. There was also substantial support for mandated reductions in nicotine content of smoked tobacco products, for requiring retailers selling tobacco products to have a license,

Table 2: Support for proposed measures to help achieve the Smokefree 2025 goal.

Measure	Total% (95% CI)	Smokers% (95% CI)#	Ex-smokers% (95% CI)#	Māori% (95% CI)#	Non-Māori% (95% CI) #
General					
Agree that tobacco products should be more tightly regulated (W1)	53.1 (49.0, 57.1)	49.7** (45.1, 54.3)	65.4 (57.2, 72.7)	56.9 (50.2, 63.4)	51.6 (46.6, 56.6)
Measures to make smoked tobacco products less affordable					
Agree government should keep increasing the tax on cigarettes and tobacco [% Yes]	25.7 (22.3, 29.5)	20.9** (17.2, 25.2)	41.0 (33.6, 48.8)	23.7 (18.5, 29.8)	26.4 (22.2, 31.1)
Support government increasing the tax on tobacco, if all the extra money is used to promote healthy lifestyles, including helping smokers to quit (hypothecated tobacco tax increase)	58.5 (54.2, 62.7)	52.7** (47.6, 57.7)	78.1 (71.9, 83.2)	55.6 (48.3, 62.6)	59.6 (54.5, 64.6)
Support government increasing tax on tobacco by 20% a year until less than five percent of the population smoke	26.7 (23.1, 30.6)	22.2** (18.3, 26.7)	41.1 (33.8, 48.9)	21.8 (16.4, 28.4)	28.4 (24.0, 33.3)
Support government increasing tax on loose tobacco to ensure that roll-your-own cigarettes are not a cheaper option than tailor-made cigarettes	26.7 (23.2, 30.5)	21.3** (17.5, 25.6)	43.4 (36.0, 51.2)	22.0 (16.4, 28.8)	28.3 (24.0, 33.1)
Support a law removing current duty-free allowance for tobacco products	50.4 (46.0, 54.7)	46.1** (41.0, 51.3)	63.6 (55.8, 70.8)	54.1 (46.1, 61.8)	49.1 (43.9, 54.3)
Measures to make smoked tobacco products less avaialble					
Agree the number of places allowed to sell tobacco products should be reduced gradually to make them less easily available (W1)	44.6 (40.7, 48.6)	40.3** (36.0, 44.8)	60.7 (52.5, 68.4)	51.1* (44.3, 57.9)	42.0 (37.4, 46.7)
Agree the number of places that can sell tobacco products should be greatly reduced, that is by 95%, and sales allowed only in a limited number and type of stores (W2) (95% reduction in tobacco retailers)	42.8 (38.7, 47.1)	37.0** (32.2, 42.1)	61.6 (53.8, 68.9)	46.6 (38.7, 54.7)	41.5 (36.6, 46.6)
Agree tobacco products should only be sold in special places where children are not allowed to go (W1)	55.4 (51.6, 59.1)	52.5** (48.3, 56.7)	66.2 (57.9, 73.6)	65.7** (59.0, 71.8)	51.2 (46.7, 55.7)
Support a law ending the sale of tobacco products in bars and pubs in order to help break the link between smoking and drinking among young people (W2)	61.8 (57.4, 66.0)	57.2** (51.9, 62.4)	76.1 (69.3, 81.7)	64.0 (56.1, 71.2)	61.0 (55.7, 66.0)
Support law requiring shops or stores to have a license to sell tobacco products (W1)	70.0 (66.3, 73.4)	68.5 (64.4, 72.3)	75.6 (67.7, 82.2)	75.2* (69.0, 80.6)	68.0 (63.5, 72.2)
Support a law that prevents who is currently 18 or younger from ever buying cigarettes or tobacco. This would eventually create a tobacco-free generation (W2)	77.8 (73.9, 81.3)	76.9 (72.2, 81.0)	80.7 (73.5, 86.4)	79.9 (73.5, 85.0)	77.1 (72.1, 81.4)
Support a law raising the legal age of purchasing cigarettes and tobacco to 21 years and older (W2)	68.5 (64.4, 72.4)	68.0 (62.9, 72.7)	70.0 (62.6, 76.5)	68.3 (60.7, 75.1)	68.6 (63.5, 73.3)
Supports law that bans cigarettes and other smoked tobacco within 10 years? [If the government provides assistance such as clinics to help smokers quit] (W1)	48.1 (44.1, 52.1)	44.9** (40.5, 49.4)	60.3 (51.8, 68.3)	54.5* (48.1, 60.8)	45.5 (40.7, 50.4)
Measures to make smoked tobacco products less addictive and palatable					
Support a law that reduces the amount of nicotine in cigarettes and tobacco to make them less addictive, if you could get nicotine in products other than tobacco (W2)	72.9 (68.8, 76.7)	71.5 (66.5, 76.0)	77.8 (71.1, 83.4)	69.5 (62.0, 76.1)	74.3 (69.2, 78.7)
Support for a law that bans all additives, including flavourings, in cigarettes and tobacco (W2)	53.2 (48.8, 57.5)	49.1** (44.0, 54.3)	66.4 (58.8, 73.3)	54.5 (46.6, 62.2)	52.7 (47.4, 57.9)
Other measures					
Support for a total ban on smoking in cars with children in them (W2)	92.0 (89.3, 94.1)	91.0 (87.4, 93.7)	94.7 (90.9, 97.0)	94.1 (90.1, 96.5)	91.3 (87.6, 94.0)
Support for requiring cigarette packages to include information on how to stop smoking (W2)	80.0 (76.2, 83.4)	77.0** (72.4, 81.1)	89.5 (84.3, 93.2)	76.9 (69.8, 82.8)	81.1 (76.6, 85.0)
Support for increased government spending on media campaigns to promote quitting smoking (W2)	51.5 (47.1, 55.7)	47.2** (42.2, 52.2)	65.2 (57.1, 72.6)	52.1 (44.4, 59.7)	51.2 (46.1, 56.3)
Support for increased government spending on media campaigns to discourage youth and young people from starting to smoke (W2)	73.4 (69.4, 77.2)	70.5** (65.5, 75.0)	83.4 (77.0, 88.2)	70.9 (63.8, 77.1)	74.4 (69.4, 78.9)

Notes:

 # %s for smokers vs ex-smokers and Māori vs non-Māori are adjusted for age, sex, time in sample (number of waves completed by participants), and for smoking status for the Māori and non-Māori subgroups, and ethnicity for the smoker and ex-smoker subgroups

*** statistically significant difference from comparions group (p<0.01), * statistically significant difference from comparions group (p<0.05)*

Figures are % who strongly support/support or strongly agree/agree with each measure

Questions in shaded row were used in logistic regression analysis presented in Table 3

and for tobacco product packs to have inserts providing advice and support for quitting. Support was lowest (<30%) for uncomplicated increases in tobacco tax, although this was much higher if additional revenue was to be used to help smokers to quit. Support for interventions to achieve the smokefree goal was higher among ex-smokers than smokers. Support was mostly similar among Māori and non-Māori participants, other than there were greater levels of support among Māori participants for several interventions to restrict the retail availability of tobacco products.

Previous investigations of support for Smokefree 2025 and tobacco control measures in New Zealand among smokers and ex-smokers have been more limited and were carried out prior to 2014. Our findings suggest that awareness and support for the smokefree goal and for most of the proposed tobacco control measures is stable or increasing.

With regards to the Smokefree 2025 goal, a 2014 national survey found much lower awareness among smokers (56%).[29] However, a 2012 online survey found similar levels of support for the goal among smokers (daily smokers 28%, occasional smokers 53%) and ex-smokers (69%) as in our study.[15] Support for the goal increased once its nature had been explained.

For tobacco control measures, a previous New Zealand ITC study (2007–2009) found similar levels of support among smokers for reducing the nicotine content of smoked tobacco products (86%), removing additives (51%), reducing the number of places that could sell tobacco products (55%), and for tax increases with hypothecation of revenue to help smokers quit (59%). For most measures, support was very similar among Māori and non-Māori smokers.[30] The 2012 online survey also found high levels of support among smokers for smokefree cars (78%), but somewhat lower support for retail restrictions such as restricting the number of stores allowed to sell tobacco (29%), banning duty-free sales of tobacco products (18%) and requiring stores to have licenses to sell tobacco (40%).[20]

A national survey conducted by the Health Promotion Agency (HPA) in 2012 found similar levels of support (45% of smokers, 70% of ex-smokers) for reducing the number of places allowed to sell tobacco, but somewhat lower support for ending the sale of cigarettes in 10 years time (34% smokers, 53% ex-smokers).[22] That survey also found similar levels of support among smokers for smokefree car laws (94% among smokers who had tried to quit in the previous year and 84% for smokers who had not recently tried to quit), reducing nicotine in cigarettes (78% and 56%) and for regular tobacco tax increases (41% and 19%), but lower support for ending duty-free tobacco sales (34% and 17%).[17] The repeat HPA survey in 2014 found 63% of smokers and 81% of ex-smokers supported reducing the nicotine content of cigarettes to very low levels.[31]

There have been some international studies investigating support for smokefree interventions among smokers and ex-smokers. For example, an ITC survey of smokers from Canada had broadly similar findings for a range of potential 'endgame' measures. As with our study, support was highest for measures to reduce nicotine content (70%) and raise the legal age for purchase to 21 years (70%). There were also similar levels of support for reducing the number of places selling tobacco products (45%), banning additives and flavourings (43%) and banning the sale of cigarettes and tobacco within 10 years (44%).[32] Another ITC study found very similar levels of support (62% to 71%) among smokers and ex-smokers from the US, Canada, the UK and Australia for raising the legal age of purchase to 21 years.[33]

Table 3: Analysis of predictors of support for Smokefree 2025 goal and key measures to help achieve it.

		Prompted support for Smokefree 2025 aOR*(95% CI)	Hypothecated tobacco tax increase aOR*(95% CI)	95% reduction in tobacco retailers aOR*(95% CI)	Raise minimum purchasing age to 21 years aOR*(95% CI)	Reduce nicotine in smoked tobacco products aOR*(95% CI)	Ban on all additives in smoked tobacco products aOR*(95% CI)
Age group	18-24	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
	≥ 25	1.20 (0.62, 2.33)	0.42 (0.20, 0.84)	0.85 (0.45, 1.63)	1.47 (0.76, 2.82)	1.05 (0.51, 2.09)	0.88 (0.47, 1.62)
Sex	Male	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
	Female	0.85 (0.58, 1.22)	0.77 (0.54, 1.09)	0.92 (0.64, 1.31)	0.90 (0.63, 1.30)	1.37 (0.92, 2.02)	0.85 (0.59, 1.20)
Ethnicity	Non-Māori	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
	Māori	1.02 (0.68, 1.54)	0.86 (0.59, 1.26)	1.29 (0.84, 1.97)	1.01 (0.66, 1.54)	0.79 (0.51, 1.23)	1.15 (0.77, 1.73)
NZ Dep 2013 quintile	5 (most deprived	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
	4	1.08 (0.68, 1.72)	0.68 (0.44, 1.07)	0.87 (0.56, 1.33)	0.94 (0.58, 1.50)	0.73 (0.45, 1.19)	1.14 (0.73, 1.76)
	3	1.30 (0.78, 2.18)	0.97 (0.58, 1.65)	1.00 (0.60, 1.68)	0.95 (0.57, 1.60)	1.36 (0.77, 2.45)	1.20 (0.71, 2.04)
	2	1.23 (0.69, 2.18)	0.86 (0.49, 1.50)	1.89 (1.04, 3.47)	0.89 (0.49, 1.64)	2.08 (1.05, 4.33)	2.25 (1.23, 4.17)
	1 (least deprived)	1.98 (0.90, 4.48)	1.00 (0.50, 2.02)	0.94 (0.45, 1.96)	0.78 (0.39, 1.58)	1.11 (0.51, 2.50)	1.14 (0.58, 2.26)
Smoking status	Smoker – (no quit attempt in last year)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
	Smoker – (quit attempt in last year)	2.73 (1.82, 4.15)	1.68 (1.14, 2.49)	2.33 (1.53, 3.58)	1.59 (1.02, 2.48)	1.66 (1.03, 2.70)	2.16 (1.44, 3.25)
	Recent quitter	4.28 (2.71, 6.89)	4.38 (2.85, 6.85)	4.17 (2.66, 6.61)	1.38 (0.88, 2.18)	1.76 (1.10, 2.84)	2.88 (1.84, 4.55)

Note:

** Adjusted odds ratios from logistic regression analysis adjusted for all other factors included in the table.*

We assessed only the views of smokers and ex-smokers. Several earlier New Zealand studies have found that support for the smokefree goal and for smokefree policy measures is greater among non-smokers and the general population. For example, in the 2012 online survey prompted support for the Smokefree 2025 goal was 86% among non-smokers and 50% among smokers, while support for allowing only a small number of licensed stores to sell tobacco was 70% among non-smokers and 29% among smokers.[20] In the HPA 2014 survey, support for reducing nicotine to very low levels was 87% among never smokers compared to 63% among smokers.[31]

The finding of strong support for the smokefree goal and many measures to achieve it among Māori is encouraging and may reflect Māori leadership in the development and adoption of the smokefree goal[1] and a recognition of the massive harm that smoking causes to Māori health. There were particularly high levels of support among Māori participants for many of the measures to reduce the availability of tobacco products. Strong support among Māori stakeholders for such measures has been noted previously.[34]

The finding that support was greater among recent quitters and even greater among smokers who had tried to quit in the last year is not unexpected. One possible implication is if tobacco control interventions increase the proportion of smokers who are motivated to quit and succeed in quitting, then support for the smokefree goal and further tobacco control measures may progressively increase.

Finally, the finding of similar support for the goal and most proposed measures to achieve it among participants aged <25 and ≥25 years is interesting. Similar degrees of support for raising the minimum age of purchase to 21 years among smokers and recent quitters in both age groups (63.6% <25 years, 69.5% ≥25 years, data not shown) suggests that this measure would attract strong support from all age groups, including among young people who might be expected to be more likely to oppose it. The major exception was the difference in support for hypothecated tax (higher among <25-year-olds). This may reflect the greater salience of price to older adults with more extensive financial commitments.

The strengths of this study include a large population-based sample with strong Māori representation and including ex-smokers as well as smokers. We also assessed support for a very wide range of policy options, including many key measures advocated in the Māori Affairs Select Committee report and ASAP strategy.[1,11] Limitations included the relatively low response rate and possible selection bias, although this was partially mitigated by using weighting to increase the likelihood that estimates reflected levels of support within the New Zealand population. Another limitation was that participants may have struggled to appraise some relatively complex measures that have not been subject to extensive public debate, such as the tobacco-free generation strategy and mandated denicotinised cigarettes.

Areas for future research include assessments of population support for key smokefree measures and policies (beyond just smokers and ex-smokers), and ongoing monitoring of the views of smokers, particularly those from priority populations including Māori who may be at the greatest risk of being adversely affected or marginalised by future policy measures. Qualitative studies should investigate the reasons for support or opposition to policies and explore perceptions of possible unintended adverse impacts in more depth. These studies could help inform communication and implementation strategies with the aim of avoiding or minimising potential adverse consequences of policies, such as stigmatisation and marginalisation, and to maximise the acceptability and legitimacy of smokefree measures.

In conclusion, we found very high levels of awareness and substantial support for the Smokefree 2025 goal among smokers and ex-smokers, despite most participants reporting having seen little information or promotion of the goal. Support was high for many measures that could help achieve the goal, including for mandated removal of nicotine from tobacco products and the tobacco-free generation proposal: two of the most radical measures recommended in the ASAP strategy. Measures to reduce uptake among children and young people were particularly strongly supported. Support for other measures was more variable. The findings suggest that greater efforts are needed to inform smokers and ex-smokers about the Smokefree 2025 goal and potential measures to help achieve it. Such efforts should increase understanding, stimulate debate and may help mobilise support among communities and stakeholders. The findings should encourage decision-makers that implementation of a comprehensive strategy for achieving Smokefree 2025, as has been promised by the New Zealand Government,[35] is feasible and acceptable.

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Supporting Information

Additional supporting information may be found in the online version of this article:

Supplementary Table A1: Characteristics of ITC New Zealand sample.