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What will the Government’s free vape starter kit programme achieve?

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Summary

As part of the Government's plan to achieve the Smokefree 2025 goal, many stop smoking providers are now offering free vape starter kits. In this Briefing, we investigate the likely impact free vape starter kits will have on the number of people who stop smoking, using both optimistic and pessimistic assumptions. We find that, at best, this policy is likely to support fewer than 500 people to stop smoking this year. This estimate is less than 1% of the 82,000+ people who need to quit if we are to achieve the Smokefree 2025 goal. Consequently, Aotearoa will fall far short of the Smokefree 2025 goal. We urgently need additional plausible measures, such as denicotinisation, to support rapid and equitable reductions in smoking prevalence.

On New Year's Eve, Associate Health Minister Casey Costello announced that 24 Te Whatu Ora funded stop smoking services throughout Aotearoa would provide free vape starter kits to adults who smoke. Several media reports (see here and here) have questioned the procurement process and raised important questions about the tobacco and vape industry's influence over Government decisions. In addition to investigating these questions, it is important to examine what impact the Government's new approach is likely to have.

How many people need to stop smoking for Aotearoa to achieve the Smokefree 2025 goal?

The Smokefree goal, recommended by the Māori Affairs Select Committee in 2010, and adopted by the Government in 2011, means daily smoking prevalence of less than 5% in all population groups. Minister Costello has endorsed this goal, saying "[W]e are committed to achieving the less than 5% smoke-free targets across all populations".

The 2023/24 New Zealand Health Survey (NZHS) reported that 298, 933 people smoke daily. Conservatively, using NZHS data and assuming the overall population size remained the same, a smoking prevalence of under 5% in 2025 would mean fewer than 216,618 people smoked daily. Achieving the Smokefree 2025 goal would thus require at least 82,315 people to stop smoking in 2024/25.

However, the goal's focus on equitable reductions in smoking prevalence means its achievement actually requires higher cessation rates. For each population group to reach the target, more than 62,500 Māori, 21,000 Pacific Peoples and 34,700 European/other would need to stop smoking (Table 1). The goal has already been realised among Asian peoples. Note

Over the previous seven years, the number of people who smoke daily has fallen on average by 11,500 for Māori, 2,200 for Pacific Peoples and 25,000 for European/Other each year, averaging 34,000 people per year overall. Note To reach the goal will require a very large increase in quitting, over and above these background rates of smoking decline. Will the Government's new vape kit initiative make a difference?

Table 1: Numbers in each population group needed to stop smoking to achieve the Smokefree 2025 goal, based on New Zealand Health Survey data

Ethnic group[#]	Adult population size aged 15+*	Prevalence of daily smoking (NZHS 2023/2024)	Number of adults who smoke daily	Number of people needed to stop daily smoking to achieve the Smokefree 2025 Goal[§]
Māori	645,203	14.7%	94,845	62,585
Pacific	290,333	12.3%	35,711	21,194
Asian	702,667	3.8%	26,701	Goal already achieved
European/Other	3,157,112	6.1%	192,584	34,728

[#] Using total response ethnicity classification
** Using NZHS estimates for 2023/24*
[§] Smokefree 2025 goal is defined as <5% daily smoking prevalence in each population group

How many people will the vape starter kit provision programme help to stop smoking?

Data from Te Whatu Ora indicates it purchased 3,430 vaping devices and sufficient e-liquid pods to offer people three months' supply. Although vapes have been shown to help people stop smoking,[1] realistically, only a fraction of the people provided with a vape will become smokefree at the end of three months and some will relapse beyond that point.

Compared to traditional nicotine replacement therapies, people who use nicotine vapes as a quitting aid are more likely to be smokefree at 3-6 months. A recent systematic review found "for every 100 people using nicotine e-cigarettes to stop smoking, 8 to 10 might successfully stop, compared with only 6 of 100 people using nicotine-replacement therapy, 7 of 100 using e-cigarettes without nicotine, or 4 of 100 people having no support or behavioural support only."[1]

Recent trials suggest improvements in vaping technology have increased quit rates when compared with earlier trials.[2] Furthermore, the initiative includes behavioural support from stop smoking providers alongside free vape kits, which may improve quit rates compared with provision of vapes alone. On the other hand, calculations also need to account for relapse to smoking after three months. A recent study investigated relapse rates by vaping status and found quitters who had never vaped and those who continued to vape regularly both had the same relapse rate of around 32%.[3] Because parameters are uncertain, we have used both optimistic and pessimistic assumptions in our calculations to estimate what proportion of the 3,430 people provided with free vape kits will remain smokefree at three months and beyond. (Table 2; see Appendix for further details).

Table 2: Estimated number of people stopping smoking long term that may arise from the NZ Government provision of vaping kits in 2025

Our assessment of optimistic and pessimistic assumptions	Abstinence rate at 3 months	Relapse rate	Estimated number of people who stop smoking over the next year
Very optimistic	20%, assuming new vape technology and behavioural support double the quit rate reported in the latest Cochrane review[1]	32%[3]	**Best case scenario** -686 stop smoking -220 relapse **466 stop smoking long-term**
Moderately optimistic	15%, assuming 50% higher quit rate than the latest Cochrane Review estimate[1]	32%[3]	**Moderate case scenario** -515 stop smoking -165 relapse **350 stop smoking long-term**
Pessimistic	10%, assuming similar quit rate to the latest Cochrane Review estimate[1]	32%[3]	**Status quo scenario** -343 stop smoking -110 relapse **233 stop smoking long-term**

These calculations suggest that, if all free vape kits supplied to stop smoking providers are distributed, 3,430 people will make quit attempts using the kits; at best, 466 of these may successfully stop smoking and remain smokefree long term. Around 40% of people might have stopped smoking anyway[1], using previously available supports (or no support), so assuming these people are *additional* quitters is a generous assumption.

In conclusion, providing free vape kits will have little impact on achieving the Smokefree 2025 goal, helping fewer than 1% of the more than 82,000 people needed to quit smoking. Sadly, no policy will now see the 2025 Smokefree goal realised by the end of this year; however, the Government should be doing its best to reduce smoking prevalence rapidly and equitably using evidence-based methods. At this point, denicotination of smoked tobacco is the only policy predicted to catalyse rapid reductions in smoking prevalence across all population groups within a short timeframe.

What this Briefing adds

- An additional 82,000+ people need to stop smoking for Aotearoa to achieve the Smokefree 2025 goal in all population groups.
- Vaping, especially when combined with face-to-face support, may help some people to stop smoking, but the new free vape kit initiative will have a very limited impact and may, at best, result in 466 people stopping smoking long-term.
- The free vape kit initiative will achieve less than 1% of the number of people who need to stop smoking if Aotearoa is to achieve the smokefree 2025 goal equitably.

Implications for policy and practice

- Inadequate Government action means Aotearoa will not achieve the Smokefree 2025 goal.
- Providing free vape kits is unlikely to substantially increase the overall number of people stopping smoking.
- Population-based measures to bring down smoking rates such as denicotinisation need to be implemented urgently, as the smokefree 2025 goal will be missed by a large margin.
- Māori and Pacific Peoples continue to experience disproportionately high smoking-related harm, and any new policies or measures must focus on addressing these inequities.

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NOTE: The New Zealand Health Survey (NZHS) uses ‘total response’ ethnicity classification, meaning individuals are counted in every ethnic group they identify with. As a result, the sum of ethnic-specific figures (such as smoking rates or required quits) may exceed the overall total, and it is difficult to determine exactly how many unique individuals would need to quit smoking to meet the 2025 goal. However, this number is likely to be greater than the 82,315 estimate above.

Appendix

Calculations and assumptions for estimated number of people stopping smoking long term that may arise from the NZ Government provision of vaping kits in 2025

Our calculations are based on 3,430 people being provided with free vape kits.

The Cochrane Review[1] states "For every 100 people using nicotine e-cigarettes to stop smoking, 8 to 10 might successfully stop, compared with only 6 of 100 people using nicotine-replacement therapy, 7 of 100 using e-cigarettes without nicotine, or 4 of 100 people having no support or behavioural support only."

Based on this evidence, we assumed 10% of people using nicotine e-cigarettes to stop smoking would stop smoking successfully in our pessimistic scenario. We doubled the assumed quit rate for our optimistic scenario, to consider the fact that people would receive modern vaping devices and be offered behavioural support.

Dai & Leventhal [3] found that among recent quitters (N = 884), the prevalence of follow-up smoking relapse was 31.6%, 39.0%, 51.6%, and 31.9% among never (N = 233), prior (N = 399), current occasional (N = 56), and current regular (N = 196) baseline e-cigarette users, respectively. We have used a conservative relapse rate (32%) for all scenarios, based on the 'current regular e-cigarette users' rate.

Table A1. Scenario assumptions

Scenario	Assumed cessation rate	Total predicted quitters	Relapse (32%)	Long term quitters
Optimistic	20%	686	220	466
Moderate	15%	515	165	350
Pessimistic	10%	343	110	233

Te Whatu Ora data on stop smoking rates

Data from a Te Whatu Ora Official Information Act request estimates there were approximately 14,552 enrolments in face-to-face stop smoking services per year (July 2016 – December 2022). The data estimates a 12% long-term (one-year) quit rate which represents 1,746 people quitting each year. Given that about 34,000 people stop smoking each year, these figures suggest only a very small minority (about 5%) do so with the help of Te Whatu Ora stop smoking services. The Te Whatu Ora one-year quit rates are likely an overestimate with long term quit rates found to be much lower in the Cochrane Review mentioned above.

Investment needed to reach the Smokefree Goal via supply of vape-kits

Scaling up the free vape kit programme to provide kits to a minimum of 82,000 people who

smoke (the number needed in an effort to realise the Smokefree 2025 goal) would require the purchase of 281,000 vape kits at a cost of $47 million and still fall well short of the goal. Assuming (a) a ‘moderate’ quit and relapse rate (see Table 2 above), (b) relapses occur at three months on average, and (c) people who relapse are immediately re-enrolled and given another vape kit, the total number of people likely to stop smoking successfully over one year would be approximately 28,664 (Table A2).

A lower-cost solution to rapidly reducing smoking rates remains denicotinisation of tobacco products as the costs are ultimately borne by the tobacco companies wishing to compete in the New Zealand market, rather than the Government.

Table A2: Costs of scaling up vaping kit programme

Quarter	Number of vape kits purchased	Reduction in number of people who smoke per quarter	Cost of purchasing vapes (based on an average of $167 per kit)
Quarter 1	81,965	8360	$13,688,155
Quarter 2	73,605	7508	$12,292,035
Quarter 3	66,097	6742	$11,038,199
Quarter 4	59,355	6054	$9,912,285
Total	**281,022**	**28,664**	**$46,930,674**

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