How do people who smoke perceive a tobacco retail outlet reduction policy in Aotearoa New Zealand? A qualitative analysis

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ABSTRACT

Background Aotearoa New Zealand plans to greatly reduce tobacco retail outlets, which are concentrated in areas of higher deprivation and perpetuate health inequities caused by smoking and borne particularly by Māori. However, we lack in-depth analyses of how this measure could affect people who smoke.

Methods We undertook in-depth interviews with 24 adults from two urban areas who smoke. We used a novel interactive mapping approach to examine participants' current retail outlets and their views on a scenario where very few outlets would sell tobacco. To inform policy implementation, we probed participants' anticipated responses and explored the measure's wider implications, including unintended impacts. We used qualitative description to interpret the data.

Results Most participants anticipated accommodating the changes easily, by using alternative outlets or bulk-purchasing tobacco; however, they felt others would face access problems and increased costs, and greater stress. They thought the policy would spur quit attempts, reduce relapse among people who had quit and protect young people from smoking uptake, and expected more people to switch to alternative nicotine products. However, most foresaw unintended social outcomes, such as increased crime and reduced viability of local businesses.

Conclusions Many participants hoped to become smoke-free and thought retail reduction measures would prompt quit attempts and reduce relapse. Adopting a holistic well-being perspective, such as those developed by Māori, could address concerns about unintended adverse outcomes and provide comprehensive support to people who smoke as they adjust to a fundamental change in tobacco availability.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Modelling studies predict that large reductions in tobacco availability will reduce smoking prevalence and bring pro-equity benefits.
⇒ Surveys examining perceptions of tobacco retail reduction policies report support for less extensive measures, but opposition to larger, more comprehensive measures.

WHAT THIS STUDY ADDS

⇒ In-depth interviews with people who smoke revealed most expected to accommodate large-scale reductions in retail outlets by modifying personal routines and purchase patterns.
⇒ Nonetheless, participants foresaw a greater impact on people experiencing higher deprivation and believed the measure could affect these people's financial, social and mental well-being.
⇒ Māori models of health and well-being outline approaches that could address concerns participants raised.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Adopting a more holistic view of well-being, such as those developed by Māori, would better recognise the wide-ranging impacts this policy may have and focus more directly on the support required for successful policy implementation.

INTRODUCTION

Commercial tobacco endgames aim to rapidly reduce smoking prevalence and address long-standing inequities caused by smoking by reducing the widespread availability of tobacco,[1–3] which normalises smoking and undermines measures designed to reduce its prevalence.[4 5] Endgame policies have particular relevance in Aotearoa New Zealand, where Māori (indigenous peoples of Aotearoa) leaders first proposed a tupeka kore (tobacco-free) vision nearly 20 years ago.[6] They identified tobacco as a tool of colonisation used initially as a gesture of goodwill and in trade by immigrants, and then by tobacco companies that exploited indigenous peoples as a new source of profit.[7 8] Māori leaders' call for action resulted in a Parliamentary Inquiry led by the Māori Affairs Select Committee, which recommended the government reduce smoking prevalence and tobacco availability to minimal levels,[9] a goal the government adopted in 2011.[10] Legislation now enacted introduces denicotinisation (ie, removes most nicotine from smoked products), creates a smoke-free generation (by disallowing product sales to people born after a certain year) and will reduce tobacco retail outlets from around 6000 to 600 nationwide.[11 12]

Recent systematic reviews and meta-analyses report associations between greater retailer density (ie, outlet numbers within a given area) and higher smoking initiation and prevalence,[13] higher and heavier adult tobacco use,[13 14] and lower rates of smoking cessation.[13] Retail outlet density has also been associated with higher risk of relapse, though fewer studies measured this outcome.[14] Retailer proximity (eg, the distance between an outlet and individuals' home) was also positively associated with adult tobacco use[14] and inversely related to

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smoking cessation.[13] Studies examining youth tobacco use have reported positive associations between outlet density around young people's homes and smoking,[13 15 16] and between outlet density near schools and future smoking uptake.[15] Retailer density has been positively associated with adolescent smoking in multiple countries, including Canada, Scotland, India and South Korea.[14–16] Associations between tobacco outlet proximity and young people's homes are less clear, possibly because young people's activity spaces expose them to tobacco outlets beyond their immediate neighbourhood.[17]

Researchers have reported greater concentrations of tobacco retailers in lower-income neighbourhoods, rural settings and in areas where some ethnicities are concentrated (often reflecting associations between ethnicity and socioeconomic status, and the consequences of land displacement caused by colonisation).[18–22] Though based on fewer studies, higher retailer density and proximity have been associated with higher adult tobacco use among lower-income populations (with greater effect sizes observed relative to high-income populations).[14] In New Zealand, strong associations between neighbourhood deprivation and smoking prevalence suggest retail density risks entrenching inequities caused by smoking.[23]

A recent simulation-based modelling study in Ohio, USA found different density reduction strategies had varied effects on equity.[24] 'Capping' (ie, setting a limit on the number of retailers in a certain area) had among the greatest and most equitable impact in more deprived neighbourhoods and was most beneficial for rural neighbourhoods.[24] A nationwide Scottish simulation study found that among 12 policy scenarios examined, restricting sales to supermarkets only and disallowing sales at small local shops produced more equitable outcomes than the status quo.[25]

Internationally, policymakers have taken different approaches to reducing retailer density. Aside from licensing law changes, approaches involve disallowing sales near areas frequented by youth or by some retailers, and capping retailer numbers within a given area.[13 14 26] Irrespective of the approach taken, New Zealand-specific modelling found large reductions in retail outlets (eg, by 90% across all 66 local government areas) were required to bring pro-equity benefits.[27]

Yet, while these studies consistently report that reducing tobacco availability will bring population health benefits, we know less about its impacts on the people who smoke. Surveys estimating support for retail reduction measures offer some insights, though these typically do not present detailed scenarios or probe impacts on equity or well-being.[28] We thus aimed to inform policy implementation by exploring how people who smoke perceived a proposal combining capping and de-clustering measures. Specifically, we explored participants' current tobacco purchasing practices, and the personal, social and societal implications of greatly reducing tobacco availability. We were particularly interested in implications for Māori, who bear a disproportionate burden of harm from smoking; daily smoking is 20.9% among Māori and 8.5% among European/other.[29 30]

METHODS

Researcher reflexivity

As non-smoking health researchers, our life experiences differed from those of our participants; we aimed to create non-judgemental dialogues where participants of all ethnicities and backgrounds could safely share their thoughts. Because the lead researchers (AG-DM and JH) are non-Māori, we worked closely with partners from Te Kāhui Matepukupuku O Aotearoa (New Zealand Cancer Society); specifically, we conceptualised the project with the Te Kāhui Matepukupuku O Aotearoa Smokefree Issues group, who advised on the study design to ensure our approach respected Māori values and practices. We liaised with this group to recruit participants, discussed the project at monthly meetings and provided drafts of the findings for review by partners.

Sample

AG-DM and JH recruited participants aged 18 years and over who smoked at least five cigarettes per day; recruitment occurred via social media and the community networks of a study advisor. Potential participants completed an online eligibility survey (see online supplemental file 1) and provided details of their age, gender, ethnicity, current tobacco consumption and main tobacco purchase outlets. Our purposive sample comprised 11 Māori and 13 non-Māori participants, to allow us to oversample people most affected by smoking and explore whether Māori and non-Māori differed in their views.

We contacted eligible people by phone to assess their interest and, if appropriate, to book an interview. We recruited participants from Dunedin (a South Island city; population ~114 000) and Hamilton (a North Island city; population ~178 000). We offered each participant a $40 gift voucher to recognise their assistance. Online supplemental file 2 outlines the recruitment process.

Mapping

Using the 'My Maps' feature in Google Maps, AG-DM created personalised web-based maps that provided an interactive representation of current tobacco outlet locations and a post-policy scenario. Each map depicted participants' current usual purchase locations (participants provided this information in a pre-interview on-boarding survey), all known current tobacco retailers within their city or town, and designated tobacco retail outlets following policy implementation. See figures 1 and 2 for sample maps, and online supplemental file 3 for a detailed explanation of the overall mapping approach.

Interviews

To facilitate participation and manage COVID-19 restrictions, AG-DM and JH conducted interviews online via the Zoom e-conferencing platform, and by phone. We pretested the interview guide with three participants and made minor clarifications. We began all of our interviews with whakawhānaungatanga (relationship building) and, for participants who identified as Māori, we offered to begin (and end) each interview with a karakia (a recitation that creates a shared purpose and brings meeting participants together).

After answering any questions, we obtained verbal consent from each participant and followed a semistructured interview guide to explore participants' smoking history and tobacco access (see online supplemental file 4). We provided each participant with a personalised map via the Zoom screen-sharing function; for phone interviews, we emailed an advance digital copy. Interviews probed how participants perceived and anticipated responding to the proposed policy, which we asked them to assume would limit tobacco sales to selected supermarkets. We explored their thoughts on others' responses and probed perceptions of the policy's wider social implications.

Interviews took place between April and June 2022 and lasted between 37 and 119 min. With participants' permission, we audio-recorded the interviews and used an online program (

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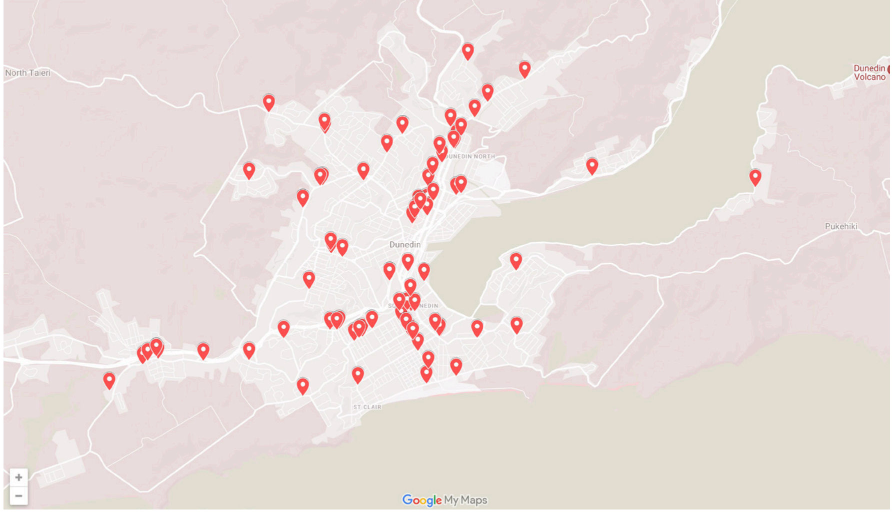

Figure 1 Dunedin sample map using red pins to represent current tobacco retail outlets.

Otter.ai.) to transcribe these into anonymous verbatim records (each participant was assigned a pseudonym). A research assistant reviewed and checked each transcript for accuracy. We reviewed transcripts following each interview to identify data convergence and information sufficiency.

Data analysis

We interpreted the data using qualitative description, an exploratory (and, in this case, inductive) analytical approach that stays close to the data.[31 32] We began by reading and rereading transcripts, then independently analysed three transcripts and developed our own coding frameworks using NVivo (V.1.6.2), before meeting to integrate and modify codes where necessary. We independently coded two further transcripts using the amalgamated framework, met to reach a consensus and then met regularly as AG-DM coded the remaining transcripts.

We drew on detailed summary notes, written after each interview, and analytical memos that noted participant or process-related reflections and recurring ideas. Participants received a copy of their transcript and summary notes, and could comment on and correct these (none did). We compared transcripts from Māori and non-Māori participants to explore whether perceptions varied by ethnicity but found no clear differences and so report findings for the sample as a whole.

Following Sandelowski and others,[31 33 34] we applied basic counts to indicate how prevalent particular views were among our 24 participants: 'some' corresponds to views held by less than one-third of participants, while 'many' corresponds to views held by at least one-third; 'most' corresponds to views held by more than half, while 'a large majority' signals views held by at least three-quarters of participants. This approach aided consistency and enhanced what Maxwell termed the 'internal generalisability' of findings (ie, the extent to which conclusions are indeed characteristic of a particular sample, though broader inferences cannot be drawn).[33]

Our advisors provided guidance and feedback throughout the project, and encouraged us to consider the implications of our findings using Te Whare Tapa Whā, a model based on Māori health principles, which describes well-being as a wharenui (meeting house) comprising four walls.[35] These walls represent taha hinengaro (mental health), taha wairua (spiritual health), taha tinana (physical health) and taha whānau (family health). The wharenui's strength and resilience depend on walls aligning and supporting each other,[36] and damage to one wall may

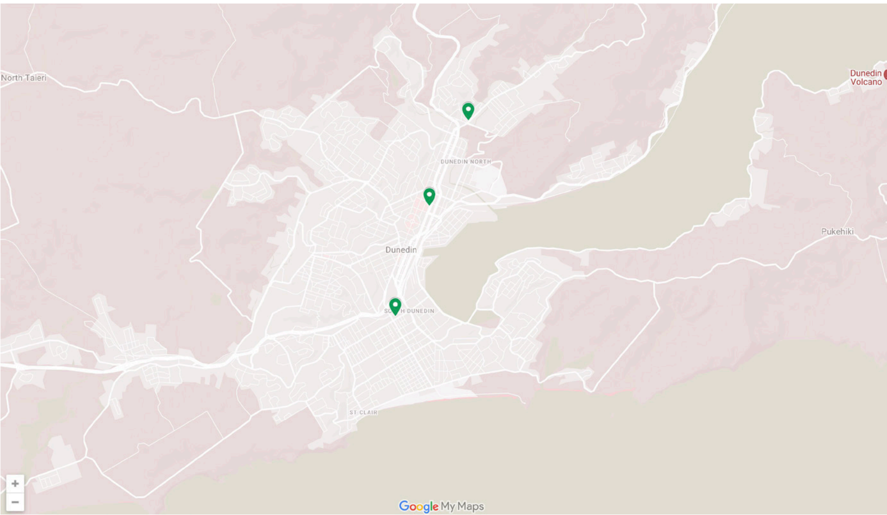

Figure 2 Dunedin sample map using green pins to represent potential designated retailers (supermarkets) following policy implementation.

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Table 1 Participant characteristics

Characteristic	Number
Age	
18–34	12
35–50	8
>50	4
Gender (total sample)	
Female	15 (7 Māori)
Male	8 (4 Māori)
Gender diverse	1
Ethnicities (identification with multiple ethnicities possible)	
Māori	11
New Zealand European	16
Pacific	1
Current tobacco consumption	
<10 cigarettes per day	7
≥10 cigarettes per day	17
Place of residence	
Dunedin within 10 km radius of central location	10
Dunedin outside 10 km radius of central location	4
Hamilton within 10 km radius of central location	9
Hamilton outside 10 km radius of central location	1

destabilise the building. With our advisors' support, we use this model to consider the varied impacts on well-being our participants noted.

RESULTS

We outline our 24 participants' characteristics (see table 1 below) then present themes and supporting quotes, with a more detailed codebook provided in online supplemental file 5.

Convenience and cost as twin imperatives

Participants overwhelmingly cited convenience as the key reason they bought tobacco from their preferred retailers, which were primarily dairies, discount stores or service stations. A large majority noted that retailers were located within a short walking distance from their home or workplace, and many bought from a retailer along their regular travel route or when buying food, alcohol or petrol. Small outlets offered minimal wait times, easy parking and flexible opening hours.

Cost also figured strongly in participants' comments, and most shopped at an outlet that offered lower tobacco prices (savings of between $1.00 and $10.00 were reported per roll-your-own tobacco pouch, though savings accrued per pack were less clear). Some commented on relationships they valued with shopkeepers and wanted to support people they knew and who they felt did not judge them for buying tobacco.

When they first learnt of the retail reduction proposal, most participants anticipated little or no personal inconvenience and expected to purchase tobacco during regular grocery expeditions, or from outlets while en route to town or work. However, people who did not live near a designated retailer, or whose regular routines would have to change to incorporate tobacco purchases, felt the policy would complicate and disrupt their schedules. They raised concerns about fuel costs and the inconvenience of making new travel arrangements. Uri explained: "Either I'll have to walk… further, or start using a bus, or stuff like that… Like, to me, it's just a nuisance, because I don't have a car or any mode of transportation." Some also felt anxious visiting large supermarkets, where they feared judgement from others or delays in accessing tobacco.

Responding to retail disruptions

Many participants expected they themselves would adjust to the changes by purchasing tobacco in bulk (eg, buying a week's supply at once or increasing their pouch size), yet felt concerned stocking up could lead them to smoke more. Nicolas commented: "You know, a lot of the time I look inside my pouch of tobacco and go, 'Oh… I need to make it last several more days because I don't want to spend the money just yet'. But if it's right there, I'm not even gonna notice. I'm gonna… smoke two weeks' worth in a week and a half." However, some felt cost constraints would limit their ability to purchase in bulk. Tui commented: "I do have a restraint on me as far as that goes. Like, if I run out of cigarettes in a week, well, that's it. You know… I never ever feel good about having to buy a second pack of cigarettes and usually I don't have that money there anyway." Some expected to budget more carefully and monitor their tobacco use to last a full shopping cycle. Whina commented: "I'm a bit of a pre-planner. Before I even run out of cigarettes, I like to make sure I've got another packet. So now it just means for me, that I'd have to budget my cigarettes for the week …if I'm having to buy them at the supermarket, so I'm not having to keep going back."

Most expected others who smoke to bulk-buy and face similar challenges of increased smoking and greater financial difficulty. Ivan commented: "It's gonna have the complete opposite effect of what people will be trying to achieve" and added: "That's going to put them more out of pocket because they're either gonna be overbuying… or [they'll] substitute, you know, cut things out of their grocery list."

Participants' views evolved as they reflected on the maps outlining changes the retail reduction policy will bring. Although most anticipated they would face few difficulties accessing tobacco, many nonetheless expected to reduce their tobacco use as access became less convenient. Nicolas commented: "You know, because the convenience of it is disappearing… I could make myself think that it's just too much effort, and slowly cut down because of that." Some anticipated health benefits. Elsie remarked: "It would be a really good way for me to cut down… I'm over it. I've been doing it for long enough now. … I mean, it's disgusting, it stinks. Why do I put something into my body that is harming me? Self-harm, isn't it?"

However, many others felt adamant their own smoking behaviour would not change either because they felt change was not possible or because they resisted change imposed by others. Leanne illustrated the first subtheme when she commented: "You're dealing with an addict. Tell me one meth addict… that actually… gives up because it's difficult [to access]… We need to be realizing that this is not choice. This is addiction." By contrast, Tui explained how people react against perceived coercion and suggested defiance created agency: "You know… we are those sorts of people on that side of the fence… that just purely on principle… go against whatever the social norm is."

A large majority thought the changes could help others who smoke to cut back or quit, especially people already considering giving up. Olivia remarked: "I think if, ah, someone was serious about [quitting]… they can't just nip to the dairy (convenience store) to grab a packet, and they'll sit there and contemplate more: 'Is it worth going all the way down there- yes or no?' Rather than just that quick, split decision to go get a packet and fall back into that trap." They believed the policy would prevent youth uptake. Greta commented: "You might not be able to

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change the people 50 plus, but there's plenty of room for change for younger folk coming through. For [whom], you know, it should be totally unacceptable."

Most expected relapse to reduce among recent quitters. Dora commented: "I think it'll encourage them to carry on… [with their quit attempt because of] the effort to get cigarettes." However, many felt people who had smoked long term would find quitting especially difficult, noting these people may sacrifice other purchases to continue smoking. Uri commented: "People are just going to find other ways to get them. It's not going to stop people from smoking at all." Atarangi said: "I know people [who] have smoked fifty years, and they absolutely cannot give it up, they've tried. They sacrifice things… food, power, gas, just to get their tobacco… You know, the younger generation-target them, that's great, but people who have been smoking their entire lives… I think it's extremely unfair for them."

A large majority vaped alongside smoking and thought the policy would increase vaping, given easy access to products and potential cost savings. Atarangi commented: "Everyone I know that smokes also vapes. If tobacco got taken away from them, they've got vaping to fall back on. I think a lot more people will just [vape] instead."

Yet, despite the benefits they foresaw, some felt concerned non-smokers may become more judgemental and reinforce the shame and exclusion they themselves already felt. Rita commented: "It can be a pain when you buy your smokes from the supermarket because they treat you like you're an absolute leper." A large majority believed the policy changes would burden people with fewer resources; they raised concerns about the stress and psychological impact the changes could impose. Greta commented: "I think it will have a big impact on the lower socio economic group… because they're not going to have the same ability to… drive or whatever to get to a supermarket to buy their cigarettes." Olivia noted: "It's just going to impact their mental health and cost them more than it originally would because they paid for a taxi or a bus fare, or, you know, [they went] somewhere else to get it." Some worried that increased financial pressures following reduced supply could exacerbate family dysfunction. Elsie commented: "I mean, it's just gonna [cause] isolation, isn't it? Especially if you're in a relationship that's gotten violent or anything like that. You know, you hide [your smoking], things like that. There'd be a lot of family harm over it. It will create a lot of control."

Social gains and losses

Most anticipated positive social outcomes from the policy changes, including reduced smoking among youth, which they strongly believed would increase young people's independence and overall health. Sofia said: "It's all about the next generation and breaking the cycle, breaking those chains of unhealthiness, you know…it didn't happen during our time, but let's make it better for them."

However, most also expected robberies targeting designated tobacco retailers to increase. Olivia noted: "… places who sell them are targeted for that product, then that's going to all combine into those [designated] locations. So perhaps the risk of being targeted is much higher." Yet, while large stores would require more comprehensive security after the changes came into effect, some thought dairies and other small shops would experience less crime when they no longer sold tobacco.

A large majority felt concerned that smaller shops would lose revenue if they could not sell tobacco, and would potentially close thus reducing community cohesion. Elsie commented: "Typically, if I went into a dairy to buy my tobacco, I would look around for a drink or chocolate bar, or perhaps a lighter… buy some hot food… Yeah, [the policy would have] a huge impact on dairy owners." Leanne explained how local stores cared for community members: "If they see that one of the regulars coming in looks a bit off, they'll ask! They don't just sell a product to which we are addicted, they provide an absolutely critical form of community monitoring."

Many participants felt the policy encroached on their lives; they distrusted government public health motives and thought other social problems (eg, alcohol regulation) should be higher priorities. Whina commented: "The government should mind their business … not get too carried away with how they're planning on doing this…" Yet, many also supported decisive action to confront an obvious harm. Sofia said: "[It's] going to be good for the next generations… And breaking the cycle… you know, creating a healthier, better world… It didn't happen during our time, but let's make it better for them."

DISCUSSION

Though participants generally disliked intrusive measures that would add complexity to their lives, most foresaw only minor changes to their routines. They expected the policy to protect youth and benefit those trying to quit smoking, but thought people experiencing material hardship and mental ill-health would bear an increased burden.

This ambivalence reflects New Zealand survey findings, which found support for retailer licensing and limiting sales to specific outlets,[28 37] but opposition to more comprehensive retail reduction measures.[28] Despite smoking's devastating impacts, some people report using smoking to manage difficult life circumstances.[38–40] Participants' responses reflected this apparent contradiction; they believed reducing tobacco availability would bring longer-term pro-equity benefits, yet identified short-term risks to people who depend heavily on smoking. Furthermore, though they resented their addiction, some disliked measures that challenged their right to decide whether, when and how to quit smoking.

Evidence of smoking's effects on people's physical, economic, mental and social well-being[41–44] suggests addressing these challenges and realising the tupeka kore (tobacco-free) goal will require holistic models of well-being that go beyond biomedical, health-focused approaches. Most participants expected either to change their purchase patterns or quit, and the latter felt becoming smoke-free would foster taha tinana and taha hinengaro (physical and mental well-being).

However, participants thought people unable or unwilling to quit would experience compounding problems. Changed routines could disrupt taha tinana (physical well-being), create additional stress (beyond the burden of addiction) that affected taha hinengaro (mental well-being) and financial pressure, particularly from increased travel costs, that could undermine taha whānau (family well-being). Managing these pressures would require people who smoke to develop a new equilibrium by quitting, moving to other nicotine sources or displacing other purchases to continue smoking. While earlier studies found that smoking both created and alleviated stress,[39 40 45] our findings help explain why smoke-free policies both enable quitting and yet loom as unwelcome threats to people who smoke.

Nonetheless, participants anticipated younger people would build stronger whare in a 'healthier, better world' where tobacco no longer threatened their well-being. Rather than face compounding problems, young people's improved taha tinana

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would enhance taha hinengaro, support taha whānau and build resilience that strengthened taha wairua.

Although we identify tensions that may lead to unintended outcomes, our findings should not be seen as supporting the status quo. Instead, they indicate the need for comprehensive support that recognises well-being as a multifaceted construct and assists people who smoke to quit or switch to other nicotine sources. Focus areas 2 and 3 of New Zealand's Smokefree Aotearoa 2025 Action Plan propose increasing health promotion and community mobilisation alongside expanded stop smoking services.[12] Comprehensive and culturally meaningful support will help assuage concerns we identified, minimise maladaptive responses and foster smoke-free outcomes.

Our study has several strengths, including the use of innovative web-based maps to depict proposed retail reduction changes in a real-world setting. We extend earlier work by exploring a specific intervention that combines capping and de-clustering approaches,[25] rather than examining a general concept.[27] We also offer a more nuanced understanding of ostensibly conflicting responses to retail reduction measures and draw on a holistic model of well-being with relevance to Māori. Our participants' insights enrich earlier survey findings,[28 37] and highlight the complex and intertwined nature of well-being.

However, as non-Māori researchers, we recognise our perspectives differ from those of some participants, and we may have overlooked some points they made. We tried to mitigate this limitation by working closely with Māori advisors and by using Te Whare Tapa Whā to place our findings within a more holistic model of well-being. Nonetheless, Māori-led research based on Māori epistemologies and methodologies would greatly extend our analyses and other population groups with high smoking prevalence also merit greater research attention. For example, research with Pacific peoples, and people who smoke and manage mental health diagnoses, could probe their views on the benefits and unintended outcomes of retail reduction measures, and explore support they may require.

In addition to generating questions, our study offers new insights into how people who smoke perceive a retail reduction strategy, particularly its potential unintended impacts on well-being. Growing international interest in tobacco endgames gives our findings wide relevance and reinforces how engaging with people affected by endgame policies could identify unintended outcomes and inform policy implementation. The holistic approach we have outlined recognises how life experiences and circumstances influence smoking and the meanings people may assign to it. This knowledge could shape the comprehensive support required to complement large reductions in tobacco availability.

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Contributors JH conceptualised the study in collaboration with the United Tobacco Issues Group (UTIG), whose members represent regional divisions of Te Kāhui Matepukupuku O Aotearoa, developed the final version of the study protocol and obtained ethical approval. AG-DM developed the mapping procedure and refined the interview guide. AG-DM and JH conducted the interviews. AG-DM led the data coding and, with JH, developed and refined the manuscript through several iterations. AW provided detailed feedback on the framing, interpretation and use of data from Māori participants. AG-DM is the guarantor.

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Competing interests None declared.

Patient consent for publication Not required.

Ethics approval This study involves human participants and ethical review was undertaken by a departmental reviewer delegated to assess low-risk applications on behalf of the University of Otago Human Ethics Committee (approval D22/050). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

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