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EDITORIAL

The future of cancer research in Aotearoa New Zealand: a pathway for better cancer outcomes

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The future of cancer research in Aotearoa New Zealand: a pathway for better cancer outcomes for Aotearoa New Zealand

Frank Frizelle

Cancer research has never been more important to Aotearoa New Zealand. More than 30,000 New Zealanders were expected to be diagnosed with cancer in 2025, increasing to more than 45,000 annually by 2044. Five-year cancer survival has improved substantially over the past 25 years, but New Zealand continues to lag behind comparable high-income countries. Cancer remains our leading cause of death. The challenge is therefore not simply to provide more cancer treatment, but to create a health system capable of generating and rapidly applying the evidence that will improve prevention, earlier diagnosis, treatment and survivorship.

Overwhelming and cross-party public support for robust tobacco control measures to achieve a Smokefree Aotearoa New Zealand: findings from a national survey

Richard Edwards, Ella Iosua, Amanda Dodd, Andrew R Gray, Rana L Peniamina, Louise Signal, Bronwen M McNoe

We investigated public support for nine key tobacco control and vaping regulation policies in a population-based survey with 1,635 participants. We found strong majority (70–85%) support for all of the policies, including for three measures that were introduced by the previous Aotearoa New Zealand Government but repealed by the current Government: reducing nicotine content in smoked tobacco products, restricting retail availability of tobacco/vaping products and a tobacco-free generation policy. Support was mostly similar by age group, gender, ethnicity and voting intention, including strong support for the repealed measures among people intending to vote for parties making up the current coalition Government. The findings underscore why politicians should be held accountable for introducing strong, effective tobacco control measures in order to achieve the Smokefree Aotearoa goal for all peoples.

Public support for policies to create a healthier food environment in Aotearoa New Zealand: findings from a national survey

Rana L Peniamina, Andrew R Gray, Louise Signal, Ella Iosua, Cristina Cleghorn, Andrea Teng, Christina McKerchar, Bronwen M McNoe

We surveyed 1,635 Aotearoa New Zealand adults about their support for policies and actions to create a healthy food environment. This included things like making healthy food less expensive, taxes on sugary drinks, rules for unhealthy food/drink marketing and reducing the amount of sugar, fat and salt in food products. The results were very clear that most people support these types of actions. Looking at the results sorted by voting intention, majority support was seen across the political spectrum. Applying these actions in Aotearoa New Zealand can make sure fewer people get sick with cancer, heart disease, diabetes and other such health problems, contribute to better and more equitable health outcomes and provide long-term relief for our health system.

The public in Aotearoa New Zealand support policies to reduce alcohol harm: results from a national survey

Rose Crossin, Ella Iosua, Emma Shields, Andrew R Gray, Louise Signal, Rana L Peniamina, Bronwen M McNoe

Alcohol consumption is a cause of at least seven types of cancer. Therefore, one way in which Aotearoa

New Zealand's cancer burden can be reduced is for the government to introduce population-level policies that are known to reduce alcohol harm. This includes measures recommended by the World Health Organization, such as restricting alcohol marketing and availability, increasing the price of alcohol or requiring alcohol have labels that warn the public about the cancer risk. In this study, a representative sample of 1,635 people were asked about their degree of support for 10 alcohol laws or policies. The findings demonstrate that there is strong public support for the government to do more to keep people safe from alcohol harm. For many policies, this support cuts across political party lines, suggesting that this support is broad across different groups of Aotearoa New Zealanders.

Public support for government-led skin cancer prevention in Aotearoa New Zealand: findings from a national survey

Bronwen M McNoe, Andrew R Gray, Ryan Gage, Ella Iosua, Rana L Peniamina, Louise Signal

Skin cancer is one of the most common cancers in Aotearoa New Zealand, but it is largely preventable. We surveyed New Zealand adults and found very strong support for government action to reduce harm from ultraviolet radiation, including funding SunSmart programmes, strengthening school sun-protection policies, improving sunscreen affordability and regulating sunbeds. Support was high across people with different political views, suggesting broad agreement about the importance of prevention. Most people also believed that preventing skin cancer is a shared responsibility involving government, schools, workplaces, sports organisations and community groups. These findings suggest there is strong public backing for expanding skin cancer prevention efforts in Aotearoa New Zealand.

Public support for better controls on lobbying and industry influence in Aotearoa New Zealand: findings from a national survey

Emma Shields, Andrew R Gray, Rose Crossin, Calvin Cochran, Louise Signal, Ella Iosua, Rana L Peniamina, Bronwen M McNoe

Using a nationally representative survey of 1,635 Aotearoa New Zealand adults, this study examined public support for stronger controls on lobbying and industry influence in health policymaking. It found consistently high support for measures such as mandatory rules for lobbyists, a 1-year cooling-off period before former politicians or staff can become lobbyists and excluding alcohol and unhealthy food industries from developing relevant health policies. Support for these measures generally exceeded 60% across voters of all major political parties. The findings suggest broad public backing for stronger safeguards against commercial influence in policymaking and indicate that lack of public support is unlikely to be a barrier to lobbying reform in Aotearoa New Zealand.

Aotearoa New Zealanders' views of policies and funding for human papillomavirus vaccination and screening for cervical and lung cancers: a national survey

Kate Gregory, Ella Iosua, Virginia Signal, Rachael Neumann, Jeannine L Stairmand, Andrew R Gray, Rana L Peniamina, Louise Signal, Bronwen M McNoe

This study surveyed adults across Aotearoa New Zealand about policies to prevent cancer and find cancer earlier. We found very strong public support for making cervical screening free, introducing lung cancer screening for people at highest risk and increasing investment in human papillomavirus (HPV) vaccination, which helps prevent cervical cancer and several other cancers. Support was high across people with different political views and demographic backgrounds. Most respondents were also willing to pay more tax to increase healthcare funding. These findings suggest there is strong public support for greater government investment in cancer prevention and early detection.

Aotearoa New Zealand public strongly support investment in cancer treatment and care services: findings from a national survey

Virginia Signal, Ella Iosua, Kate Gregory, Rachael Neumann, Jeannine L Stairmand, Jerram Bateman, Andrew R Gray, Rana L Peniamina, Louise Signal, Bronwen M McNoe

Cancer affects many people and whānau in Aotearoa New Zealand, and demand for cancer services is expected to grow. This national survey found very strong public support for the government to spend more on cancer testing, treatment, medicines, radiation services, genomic testing, hospice care and travel support for people needing treatment. Support was high across age groups, ethnic groups and voting intentions, showing that investment in cancer care is widely supported by the public. The survey also found concern about whether enough is being done to support the health workforce, and most respondents said they would be willing to pay more tax to increase healthcare funding (particularly if the extra money was used for healthcare).

Public support for cancer prevention and care policies in Aotearoa New Zealand: methods of a national survey

Bronwen M McNoe, Andrew R Gray, Ella Iosua, Rana L Peniamina, Louise Signal

This paper describes the methods used in a national survey examining public support for cancer prevention and cancer care policies in Aotearoa New Zealand. A total of 1,635 adults completed an online survey between November and December 2025, with quota sampling, oversampling of Māori and Pacific people, and weighting to improve representativeness. The survey collected views on cancer prevention, vaccination, screening, treatment, supportive care and lobbying and political influence, with analyses stratified by age, gender, ethnicity and voting intention. The resulting dataset formed the basis for seven topic-specific *NZMJ* papers and provides a robust platform for understanding public attitudes towards cancer-related policies in Aotearoa New Zealand.

Public support for cancer prevention, screening, treatment and care policies in Aotearoa New Zealand: a synthesis of evidence from a national survey

Bronwen M McNoe, Rana L Peniamina, Richard Edwards, Rose Crossin, Andrew R Gray, Ella Iosua, Jerram Bateman, Shane Bradbrook, Jeannine L Stairmand, Virginia Signal, Louise Signal

Many cancer prevention and care policies are often portrayed as politically difficult or lacking public support. However, findings from a series of national surveys showed strong and consistent support among New Zealanders for evidence-based cancer policies across the cancer continuum, including prevention, vaccination, screening, treatment, supportive care and health system funding. Large majorities supported measures to reduce cancer risk and improve access to screening and care. Support was evident across supporters of different political parties, suggesting a clear public mandate for stronger action on cancer prevention and cancer care.

How can we value what is not measured: the need for better data on women's health and primary care

Fiona Imlach, Natalia Boven, Vanessa Selak

Many chronic, disabling health conditions affect women more than men, meaning that women spend 25% more time in poor health than men. For planning and funding our health services, health agencies mostly rely on information about hospital visits, deaths and treatments, which misses those chronic health conditions that are mostly treated in primary care, do not have specific treatments or diagnostic tests and are under-diagnosed. Without better information, we cannot measure the cost and burden of these conditions or improve health services so they are managed more effectively. We need

improvements in existing health datasets and the development of primary care datasets to be able to monitor and reduce the impact of these conditions on everyone, and women in particular.

Metastatic neuroendocrine carcinoma mimicking a breast abscess: a case report

Ally Yu, Yijiao Wang, Eva Juhasz

This case report describes a rare and aggressive type of cancer that first appeared to be a breast infection. A 38-year-old female patient was initially treated for a breast abscess (collection of pus caused by infection), but further tests showed that it was caused by cancer that had spread from another part of the body. The case highlights the importance of considering the possibility of cancer when a breast infection does not get better with standard treatment, even in young people without the typical risk factors.

The future of cancer research in Aotearoa New Zealand: a pathway for better cancer outcomes

Frank Frizelle

Cancer research has never been more important to Aotearoa New Zealand. More than 30,000 New Zealanders are expected to be diagnosed with cancer in 2026, increasing to more than 45,000 annually by 2044. Five-year cancer survival has improved substantially over the past 25 years, but New Zealand continues to lag behind comparable high-income countries.[1] Cancer remains our leading cause of death. The challenge is not about providing more cancer treatment but to create a health system capable of generating and rapidly applying the evidence that will improve prevention, earlier diagnosis, treatment and survivorship.

The *New Zealand Cancer Action Plan 2026–2029* (*Cancer Action Plan*) explicitly recognises that research, including clinical trials, underpins the entire cancer control continuum and identifies national co-ordination, improved clinical-trial capacity, research translation and stronger relationships between researchers, policymakers and service providers as priorities.[1] Action point 8.4 calls for cancer research and innovation to be "*aligned and elevated*", including decentralised clinical trials, targeted research funding and national mechanisms for translating research findings into routine clinical care. While New Zealand may want to recognise the importance of cancer research in clinical practice and as a driver to improved cancer survival, the issue is whether we have the funding, infrastructure and institutional structures required to deliver these ambitions.

New Zealand already has considerable cancer-research capability. A recent analysis of the cancer research landscape from 2016 to 2026 identified 586 researchers, of whom 420 had held cancer-related funding, producing more than 20,000 publications with collaborations involving 145 countries.[2] It identified NZ$184.07 million of state funding across 272 projects and NZ$85.81 million from philanthropic and charitable organisations across 220 projects.[2] Cancer Society funding alone totalled NZ$52 million across 54 projects.[2]

These sums appear substantial, but spread across a decade and a population exceeding 5 million they are relatively modest. Approximately NZ$270 million of identifiable state and charitable funding equates, very approximately, to NZ$5 per person per year. This should not be regarded as a precise international comparison: funding definitions differ between countries, and the New Zealand analysis is unlikely to capture all expenditure. Nevertheless, the scale is informative. Cancer Research UK alone spent £403 million on research in 2024/2025—approximately £6 per United Kingdom resident from a single charitable organisation—before government, university and other charitable research expenditure is included.[3] Canada similarly reports annual cancer-research investment of approximately CA$500 million.[4] Australia continues to make substantial investments through the Medical Research Future Fund, including AU$750 million over 10 years through its Clinical Trials Activity initiative.[5]

The issue, however, is not simply asking for more money. It is important that the money and resources we have are best utilised and the people and infrastructure are organised. Cancer research in New Zealand is already concentrated. Eighty-five percent of researchers identified in the recent analysis were affiliated with the universities of Auckland and Otago.[2] Together, these universities held 358 of the 491 identified projects and NZ$146.74 million of the NZ$198.07 million in attributable project-level funding.[2] Such concentration is not necessarily undesirable. Contemporary cancer research requires critical mass, sophisticated laboratories, genomics, biobanking, data science, clinical-trial infrastructure and multidisciplinary expertise. New Zealand cannot efficiently reproduce all these capabilities everywhere.

Auckland has already begun to translate this principle into organisational change. In 2026, The University of Auckland established a Department of Cancer Sciences under its founding head,

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Associate Professor Ben Lawrence, a medical oncologist. The department brings together the Auckland Cancer Society Research Centre, the former Department of Oncology and Cancer Trials New Zealand, while seeking to connect researchers and clinicians across the university, Health New Zealand – Te Whatu Ora and other organisations.[6] The university describes this as a major step towards a comprehensive cancer centre. Their longer-term vision is for the department to provide the foundation for New Zealand's first such centre within the next decade, integrating prevention and screening, laboratory discovery, drug development, precision oncology, clinical trials and clinical care.[7]

Christchurch also has many of the components required for this model. While Otago is a multi-campus medical school, Christchurch is a major clinical and research campus with substantial cancer research, translational laboratory activity and tissue-banking capability, closely integrated with Christchurch Hospital. The combination of patients, clinicians, tissue, data and laboratory scientists provides precisely the environment required for translational cancer research. The existing Canterbury Comprehensive Cancer collaborative network provides an additional foundation on which a more integrated centre could be built. The integration across clinical practice and basic laboratory research is important. Clinical problems generate research questions; laboratory discoveries move into trials; patients are routinely considered for research participation; outcomes are measured; and evidence is rapidly translated back into practice. As Lawrence has argued in developing the Auckland model, research and clinical care strengthen each other when they occur within the same environment.[7]

Such centres could also provide an organisational mechanism for delivering many of the priorities already identified in the *Cancer Action Plan*. The plan separately calls for stronger national cancer data and intelligence, genomics capacity, artificial intelligence, clinical-trial infrastructure and research translation.[1] Comprehensive cancer centres could bring these together through shared biobanks, molecular pathology, genomics, clinical-trial units, research nurses, statisticians, bioinformaticians and linked national datasets.

This should not mean centralising cancer research or cancer care in Auckland and Christchurch, as Dunedin, Wellington, the Malaghan Institute of Medical Research and other centres have substantial research expertise, while regional hospitals are essential to equitable trial access. The objective should be to concentrate expensive infrastructure while distributing access nationally. The *Cancer Action Plan* itself calls for decentralised trials so that people living outside the major centres can participate in research. Comprehensive cancer centres should therefore function as hubs within a network, rather than institutions that draw research and patients away from the regions.

Equity is fundamental to cancer delivery and research. Māori and Pacific people continue to experience substantially poorer cancer outcomes. The *Cancer Action Plan* specifically includes growing and supporting the Māori cancer-research workforce. Research priorities, governance, workforce development and recruitment to clinical trials must therefore address inequity from the outset rather than as an afterthought.

There is also an important question about how we balance investment in today's cancer treatment against investment in tomorrow's care. Government has made substantial recent investments in medicines, infusion services, diagnostics and bowel screening.[1] These were often overdue and necessary. But genomics, precision oncology, artificial intelligence, new diagnostics and new treatments will not simply implement themselves. A modern cancer system must invest in the knowledge-generating infrastructure required to determine which innovations work, for whom they work and how they should be delivered in New Zealand.

New Zealand cannot, and should not, undertake every form of cancer research. We should identify areas in which our population, national health system, clinical expertise, research strengths and linked datasets provide international advantages, while participating strongly in international research elsewhere.

The *Cancer Action Plan* has established the direction. The next challenge is to fund and organise cancer research as essential health infrastructure. Auckland has begun developing one model under Ben Lawrence. Christchurch has the clinical, academic and translational foundations for a complementary centre. Connecting these centres with Dunedin, Wellington, regional cancer services, research institutes, registries, charities and patients could create something considerably more important than two institutions: a national cancer research system. Research is not an academic luxury added to cancer care. It is how cancer care improves.

COMPETING INTERESTS
Frank Frizelle is the Editor-in-Chief of the *New Zealand Medical Journal*, a medical advisor for Bowel Cancer NZ, the deputy chair for the bowel cancer registry ANZ, the president of CSSANZ, the chair of the binational cancer prostate cancer registry (PCOR ANZ) and the chair of the Christchurch Cancer Foundation.

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Overwhelming and cross-party public support for robust tobacco control measures to achieve a Smokefree Aotearoa New Zealand: findings from a national survey

Richard Edwards, Ella Iosua, Amanda Dodd, Andrew R Gray, Rana L Peniamina, Louise Signal, Bronwen M McNoe

ABSTRACT

AIM: Tobacco is a leading cause of preventable disease, mortality and health inequity in Aotearoa New Zealand where smoking prevalence decline has stalled. Further reductions will likely require tobacco control measures beyond business-as-usual approaches. We report survey support for tobacco control and vaping regulation policies.

METHODS: We recruited adults from an online panel using quota sampling. We assessed support using a structured questionnaire for: reducing nicotine content in smoked tobacco products; restricting retail availability of tobacco/vaping products; a tobacco-free generation policy; raising the minimum legal age of sale for tobacco and vaping to 21 years; introducing tobacco industry levies; and ending legal sales of smoked tobacco products.

RESULTS: After oversampling, we received 1,635 participant responses, including n=385 from Māori (23.5%, unweighted) and n=368 from Pacific people (22.5%, unweighted). We found strong majority (70–85%) support for all nine tobacco control/vaping regulation policies. Support was mostly similar by age group, gender, prioritised ethnicity and voting intention, including strong support for all policies among supporters of parties making up the current Coalition Government, and among 18–20-year-olds for the tobacco-free generation and raising the legal age of sale to 21 years policies.

CONCLUSION: The findings demonstrate overwhelming public support for more robust tobacco control interventions. Politicians of all political parties should prioritise and be held accountable for introducing strong, effective tobacco control measures in order to achieve the Smokefree Aotearoa goal for all peoples. This will greatly improve population health and reduce health inequities, prevent the social, environmental and economic costs of tobacco smoking, honour Te Tiriti o Waitangi and protect future generations from the scourge of tobacco.

Tobacco use remains a leading cause of preventable disease and premature mortality in Aotearoa New Zealand, accounting for more than one in five of all cancer deaths[1] and contributing substantially to global burdens of disease.[2] Tobacco smoking is causally linked to multiple cancers, as well as cardiovascular and respiratory diseases.[3,4] Because of long latency between exposure and disease onset, current cancer incidence largely reflects historical smoking patterns.[4]

Harms from tobacco in Aotearoa New Zealand are inequitably distributed. Māori experience substantially higher smoking-attributable morbidity and mortality than non-Māori, reflecting the enduring impacts of colonisation, structural disadvantage and the historical and ongoing exploitation of Indigenous communities by the tobacco industry.[5,6] Pacific people also experience disproportionate tobacco-related harm, and smoking is increasingly concentrated in communities experiencing disadvantage.[7]

Under Te Tiriti o Waitangi, the Crown has obligations to actively protect Māori health, ensure equity and enable tino rangatiratanga for Māori in health decision making. Tobacco control policy in Aotearoa New Zealand is therefore not only concerned with enhancing population health and minimising health inequities, but also with honouring Te Tiriti. Māori leadership has been central to articulating a tobacco "endgame",[8] including the Tupeka Kore vision and the Smokefree Aotearoa goal of reducing smoking prevalence and tobacco availability to

minimal levels by 2025. The latter originated in the 2010 Māori Affairs Select Committee inquiry into the tobacco industry and was adopted in the subsequent government response.[9,10]

Aotearoa New Zealand has implemented a comprehensive tobacco control programme aligned with the World Health Organization Framework Convention on Tobacco Control,[11] including smokefree indoor environments, restrictions on advertising and promotion, health warnings, price and tax measures and cessation support.[12] However, recent national data indicate that progress in reducing smoking prevalence has stalled, suggesting that further reductions will likely require stronger, system-level measures beyond business-as-usual approaches.[7,13]

The 2020–2023 Labour-led Government introduced a Smokefree Aotearoa 2025 Action Plan,[14] and in 2023 passed legislation[15] introducing three world-leading endgame tobacco control measures: mandated reduction in nicotine content of smoked tobacco products to make them non-addictive ("denicotinisation policy"); a 90% reduction in tobacco retailer numbers to restrict the availability of cigarettes and other tobacco products; and prohibition of sale of tobacco products to people born after 1 January 2009 ("tobacco-free generation policy"). Modelling indicated that these measures, particularly denicotinisation, would substantially reduce smoking prevalence and Māori/non-Māori smoking prevalence and health inequities.[16]

Rapid increases in adolescent and youth vaping after 2020 created considerable public concern,[17] prompting the Labour- and National-led governments to introduce measures including a ban on disposable vapes and nicotine strength limits to reduce uptake of vaping among young people.

Robust tobacco control and vaping regulation policies attract strong supportive advocacy but are often highly contested, notably due to coordinated tobacco industry activities. The former is demonstrated by ongoing calls for further action to strengthen regulatory approaches; for example, by restricting the accessibility and affordability of vapes to young people.[18] The fragility and contested nature of tobacco control policy was graphically illustrated in Aotearoa New Zealand when, despite concerted opposition, notably from the health sector, the incoming National Party–led Coalition repealed the three key measures from the Smokefree Aotearoa 2025 Action Plan in February 2024.[19] This episode underscored the importance of governance mechanisms that protect public health policymaking from commercial interference.[20]

Public support is an important component of policy justification and a critical determinant of the political feasibility, implementation and durability of public policy.[21] Assessing public support is therefore essential to inform public health advocacy, evidence-based policymaking and regulation aimed at reducing tobacco-related harm and advancing health equity. International evidence, including from Aotearoa New Zealand, demonstrates public support for many tobacco endgame policies, with the strongest support consistently observed for a denicotinisation policy for smoked tobacco, where support commonly exceeds 70% in the general population.[22] Although support for endgame policies is lower among people who smoke, it remains substantial, particularly among those who express a desire to quit or regret smoking.[23,24] In Aotearoa New Zealand, repeal of the 2022 Smokefree legislation occurred despite evidence of substantial public support for the three key policies.[25] However, there is limited current (post-repeal) research assessing support for key tobacco control policy options in Aotearoa New Zealand.

To address this gap, we report findings from a nationwide, cross-sectional online survey assessing support for evidence-based cancer-related policies in Aotearoa New Zealand. This report focusses on describing public support overall and by voting intention for key tobacco control and vaping regulation policies. These policies included the repealed tobacco endgame measures from the Smokefree Aotearoa action plan, two measures that have been proposed to help reduce youth vaping uptake[18] and other key tobacco control measures proposed internationally. The latter includes raising the age of legal sale of tobacco products to 21 years ("T21 policy"),[26] introducing levies on tobacco companies to limit their profitability and provide funding to address the adverse health and environmental impacts of smoking,[27] and ending the sale of smoked tobacco products altogether.[28]

Methods

Full methodological details are published in the study methodology paper published elsewhere in this journal.[29] Briefly, adults aged ≥18 years were recruited via a large commercial online panel using quota sampling to achieve national representativeness by age, gender and ethnicity, with

additional targets for Māori and Pacific people.

Data were collected in November–December 2025 using a structured questionnaire comprising predominantly closed-ended items covering cancer prevention, early detection, treatment and supportive care and related policy domains.

Respondents were asked to indicate their level of support or opposition to measures including reducing nicotine content in cigarettes and tobacco products to non-addictive levels, restricting retail availability of tobacco and vaping products, creating a tobacco-free generation by prohibiting tobacco sales to those born after 2008 (corresponds to individuals born on or after 1 January 2009) and raising the minimum legal age of sale for tobacco, vaping and other nicotine products to 21 years. The survey also examined support for the introduction of an excise tax on vaping products to reduce affordability for children, and government levies on tobacco companies to recover healthcare and environmental costs associated with tobacco use. Finally, we assessed support for a complete ban on the sale of smoked tobacco products and asked respondents whether they agreed with the Government's decision to repeal legislation that introduced the three world-leading tobacco control measures. Following initial recruitment, wording of the repeal question was amended to improve clarity, resulting in exclusion of the first 107 responses from analyses of that item.

Policy items were measured using a six-point scale ranging from *strongly support* to *strongly oppose*, with a *do not want to answer* option, while views on the repeal were captured using *agree*, *disagree* and *unsure* response options. The survey instrument is available in the Appendix of the methods paper in this series,[29] with specific tobacco questions provided in Appendix A of the current paper.

We used design and poststratification weights to align the sample with 2023 New Zealand Census population benchmarks for age groups, gender and Māori ethnicity. Analyses provided estimates of support among the total population, and by age group, gender, prioritised ethnicity and voting intention (Appendix B). Based on the effective sample size of 1,161 after weighting, the approximate worst-case margin of error for a total population percentage is ±2.9%.

Ethical approval

Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184) and Māori consultation procedures are described in the methodology paper.[29]

Results

Results are summarised in Table 1 (detailed levels of support by policy) and Table 2 (total support for each policy by voting intention). Additional stratified analyses are reported in the Appendix tables (Appendix B).

There was substantial or overwhelming support for all nine of the tobacco and vaping policies (Table 1). Total support (*strongly support*/*support*/*slightly support* combined) varied between 77.0% and 85.0% for eight of the policies. The exception was stopping the sale of tobacco products altogether, which was supported by a slightly lower proportion (70.0%) of participants. *Strongly support* varied between 37.3% and 52.0% and was greater than total opposition (*strongly oppose*/*oppose*/*slightly oppose* combined) for each of the nine policies (range 12.4–27.5%).

Support for the policies by age group, gender and prioritised ethnicity mostly did not vary substantially (see Appendix tables). The exceptions were that support for most policies was lowest in the 18–20-year-old age group and highest in people aged 65 or older, and support was somewhat lower for most policies among Māori participants and males. However, there was still substantial majority support for all nine measures among 18–20 year-old, male or Māori participants.

Of particular note, 18–20-year-olds supported both of the measures that would most affect their age group—the tobacco-free generation policy (74.2% total support) and raising the age of legal sale to 21 years (74.8%).

Table 2 shows support by voting intention. There was substantial majority support for all nine measures regardless of voting intention, including among people who intended to vote for parties making up the current Coalition Government (ACT, National, NZ First). For five of the nine measures, support was lowest among people who intended to vote for NZ First. However, there was still majority total support for all nine measures among NZ voters.

With regards to specific measures, there was very substantial support for all three of the world-leading measures introduced by the previous Labour-led Government that the current Government repealed: reducing nicotine content of cigarettes so they are no longer addictive (84.2% total support), reducing the number of

Table 1: Support for tobacco and vaping policies.

Policies	Total support* n=1,634**	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Require people to be 21 years before they can be sold tobacco or vapes	85.0%	827 (51.8%)	336 (21.0%)	203 (12.3%)	95 (5.1%)	85 (4.8%)	52 (3.0%)	36 (2.1%)
Reduce nicotine in cigarettes so they are no longer addictive[#]	84.2%	779 (49.4%)	369 (22.4%)	208 (12.4%)	94 (5.7%)	59 (3.3%)	80 (4.5%)	45 (2.3%)
Government levy on tobacco companies to recover healthcare costs of tobacco smoking	83.5%	762 (47.4%)	359 (22.4%)	231 (13.7%)	83 (5.0%)	73 (4.1%)	59 (3.3%)	67 (4.1%)
Reduce the number of stores selling vaping products	83.4%	840 (52.0%)	314 (19.5%)	192 (11.9%)	113 (6.7%)	73 (4.1%)	66 (4.0%)	36 (1.8%)
Government levy on tobacco companies to recover environmental costs of tobacco smoking	81.7%	716 (44.6%)	365 (22.7%)	238 (14.4%)	93 (5.6%)	89 (5.0%)	64 (3.6%)	69 (4.2%)
Excise levy on vaping products to make them less affordable for children	81.1%	776 (48.4%)	333 (19.6%)	206 (13.1%)	92 (5.5%)	90 (5.2%)	79 (4.6%)	58 (3.6%)
Make it illegal to sell tobacco products to people born after 2008 (tobacco-free generation policy)[#]	78.1%	745 (47.0%)	306 (18.6%)	212 (12.6%)	116 (7.1%)	111 (6.5%)	82 (4.3%)	62 (4.0%)
Reduce the number of places in Aotearoa New Zealand allowed to sell tobacco products[#]	77.0%	689 (42.7%)	323 (21.1%)	217 (13.2%)	149 (8.4%)	108 (6.3%)	102 (5.9%)	46 (2.4%)

Table 1 (continued): Support for tobacco and vaping policies.

Policies	Total support* n=1,634**	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Stop the sale of all tobacco products	[redacted] 70.0%	593 (37.3%)	319 (19.9%)	215 (12.7%)	181 (11.2%)	113 (7.0%)	164 (9.4%)	49 (2.5%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**One person who stated that they were not eligible to vote was excluded from this table.
#These policies were introduced in 2022 by the Labour-led Government but were repealed in February 2024 by the National/ACT/NZ First Coalition Government.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

Table 2: Total support* for tobacco and vaping policies by voting intention.

Policies		Total n=1,634**	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pati Māori n=74	Other n=17	Don't know n=191
Require people to be 21 years before they can be sold tobacco or vapes	Support	1,366 (85.0%)	48 (78.2%)	127 (89.1%)	580 (86.4%)	273 (87.3%)	118 (80.8%)	58 (79.2%)	15 (90.4%)	147 (80.1%)
	Oppose	232 (12.9%)	16 (21.8%)	15 (10.2%)	96 (12.4%)	40 (11.9%)	21 (13.3%)	14 (19.0%)	2 (9.6%)	28 (13.2%)
	DNWTA†	36 (2.1%)	0 (0.0%)	1 (0.6%)	9 (1.2%)	4 (0.8%)	4 (6.0%)	2 (1.8%)	0 (0.0%)	16 (6.7%)
Reduce nicotine in cigarettes so they are no longer addictive#	Support	1,356 (84.2%)	50 (78.6%)	123 (85.4%)	574 (85.2%)	279 (88.6%)	114 (82.0%)	59 (80.0%)	13 (72.5%)	144 (77.8%)
	Oppose	233 (13.5%)	14 (21.4%)	18 (13.4%)	99 (13.4%)	30 (8.7%)	24 (15.3%)	12 (17.5%)	3 (22.2%)	33 (16.6%)
	DNWTA†	45 (2.3%)	0 (0.0%)	2 (1.2%)	12 (1.5%)	8 (2.6%)	5 (2.7%)	3 (2.5%)	1 (5.3%)	14 (5.7%)
Government levy on tobacco companies to recover healthcare costs of tobacco smoking	Support	1,352 (83.5%)	47 (77.3%)	123 (85.9%)	580 (85.8%)	270 (85.6%)	111 (76.8%)	56 (78.0%)	14 (78.7%)	151 (80.0%)
	Oppose	215 (12.4%)	17 (22.7%)	16 (11.7%)	79 (10.7%)	38 (11.5%)	27 (16.7%)	16 (20.3%)	2 (16.0%)	20 (10.6%)
	DNWTA†	67 (4.1%)	0 (0.0%)	4 (2.4%)	26 (3.5%)	9 (2.9%)	5 (6.5%)	2 (1.8%)	1 (5.3%)	20 (9.4%)
Reduce the number of stores selling vaping products	Support	1,346 (83.4%)	52 (82.2%)	125 (87.1%)	560 (83.3%)	277 (87.1%)	111 (81.2%)	60 (79.2%)	14 (77.8%)	147 (78.5%)
	Oppose	252 (14.8%)	12 (17.8%)	17 (12.2%)	116 (15.7%)	36 (11.5%)	28 (17.1%)	12 (19.0%)	3 (22.2%)	28 (14.7%)
	DNWTA†	36 (1.8%)	0 (0.0%)	1 (0.6%)	9 (1.1%)	4 (1.4%)	4 (1.7%)	2 (1.8%)	0 (0.0%)	16 (6.8%)

Table 2 (continued): Total support* for tobacco and vaping policies by voting intention.

Policies		Total n=1,634**	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pati Māori n=74	Other n=17	Don't know n=191
Government levy on tobacco companies to recover environmental costs of tobacco smoking	Support	1,319 (81.7%)	51 (82.9%)	124 (87.1%)	566 (84.0%)	262 (83.5%)	100 (70.2%)	57 (74.9%)	12 (69.1%)	147 (78.6%)
	Oppose	246 (14.1%)	13 (17.1%)	16 (11.4%)	92 (12.1%)	48 (14.6%)	37 (22.4%)	14 (20.6%)	4 (25.5%)	22 (10.8%)
	DNWTA†	69 (4.2%)	0 (0.0%)	3 (1.5%)	27 (3.9%)	7 (1.8%)	6 (7.4%)	3 (4.5%)	1 (5.3%)	22 (10.6%)
Excise levy on vaping products to make them less affordable for children	Support	1,315 (81.1%)	52 (85.0%)	120 (84.1%)	557 (82.5%)	270 (85.3%)	109 (73.7%)	53 (69.1%)	14 (77.8%)	140 (74.8%)
	Oppose	261 (15.3%)	12 (15.0%)	20 (14.0%)	108 (14.9%)	41 (13.3%)	27 (17.0%)	19 (29.2%)	3 (22.2%)	31 (15.5%)
	DNWTA†	58 (3.6%)	0 (0.0%)	3 (1.8%)	20 (2.6%)	6 (1.4%)	7 (9.2%)	2 (1.8%)	0 (0.0%)	20 (9.7%)
Make it illegal to sell tobacco products to people born after 2008 (tobacco-free generation policy)#	Support	1,263 (78.1%)	47 (76.9%)	119 (82.8%)	551 (81.9%)	245 (76.9%)	96 (64.8%)	53 (74.1%)	13 (78.9%)	139 (76.6%)
	Oppose	309 (17.9%)	17 (23.1%)	21 (15.5%)	114 (15.2%)	65 (20.9%)	39 (24.3%)	18 (23.4%)	3 (15.8%)	32 (14.8%)
	DNWTA†	62 (4.0%)	0 (0.0%)	3 (1.7%)	20 (2.9%)	7 (2.2%)	8 (11.0%)	3 (2.5%)	1(5.3%)	20 (8.6%)
Reduce the number of places in Aotearoa New Zealand allowed to sell tobacco products#	Support	1,229 (77.0%)	48 (79.2%)	120 (84.6%)	525 (78.7%)	247 (78.7%)	88 (64.4%)	51 (69.2%)	14 (77.8%)	136 (74.4%)
	Oppose	359 (20.6%)	16 (20.8%)	22 (14.8%)	145 (19.4%)	64 (19.5%)	50 (33.1%)	21 (29.1%)	3 (22.2%)	38 (17.9%)
	DNWTA†	46 (2.4%)	0 (0.0%)	1 (0.6%)	15 (1.8%)	6 (1.8%)	5 (2.6%)	2 (1.8%)	0 (0.0%)	17 (7.7%)

Table 2 (continued): Total support* for tobacco and vaping policies by voting intention.

Policies		Total n=1,634**	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pati Māori n=74	Other n=17	Don't know n=191
Stop the sale of all tobacco products	Support	1,127 (70.0%)	45 (72.8%)	107 (74.3%)	480 (72.5%)	227 (70.1%)	84 (56.9%)	48 (66.8%)	13 (74.5%)	123 (68.3%)
	Oppose	458 (27.5%)	19 (27.2%)	34 (24.6%)	190 (25.6%)	83 (27.4%)	53 (40.0%)	24 (31.4%)	4 (25.5%)	51 (25.2%)
	DNWTA†	49 (2.5%)	0 (0.0%)	2 (1.2%)	15 (1.9%)	7 (2.6%)	6 (3.0%)	2 (1.8%)	0 (0.0%)	17 (6.5%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**One person who stated that they were not eligible to vote was excluded from this table.
†DNWTA = *do not want to answer* response.
#These policies were introduced in 2022 by the Labour-led Government but were repealed in February 2024 by the National/ACT/NZ First Coalition Government.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

places allowed to sell tobacco products (77.0% total support) and a tobacco-free generation (78.1% total support). Majority support was also present for these measures among ACT, National and NZ First voters: reducing nicotine content of cigarettes (78.6–88.6% total support), reducing the number of places selling tobacco products (64.4–79.2% total support) and a tobacco-free generation (64.8–76.9% total support).

In response to the question asking whether participants agreed with the current Government repealing the law that introduced the three world-leading tobacco control measures, 27.2% agreed, 50.5% disagreed and 22.3% were unsure or did not want to answer. The proportion disagreeing with the repeal was higher than the proportion agreeing with the repeal regardless of voting intention.

Discussion

This study found overwhelming public support and minimal opposition in Aotearoa New Zealand for implementing rigorous tobacco control policy measures. Strong support was evident for the three key measures from the 2021 Smokefree Aotearoa Action Plan that were subsequently repealed by the National-led Coalition Government. Similarly, there were high levels of support for imposing levies on the tobacco industry to recover health and environmental costs resulting from the use of tobacco products, and for raising the age of legal sale to 21 years—a measure that has been implemented at locality, state and federal levels in the United States of America.[26] Firm majority support was evident even for the most rigorous policy investigated—ending all smoked tobacco product sales.

The findings align with previous surveys. For example, an assessment of public support for the three key Smokefree Aotearoa Action Plan measures just prior to their repeal found 77% support for denicotinising smoked tobacco products, 68% support for reducing tobacco retailer numbers from 6,000 to 600 and 65% support for the tobacco-free generation policy.[25] Levels of support for these policies were even stronger in this survey, demonstrating that there is sustained and even growing public support for robust tobacco control policy measures.

There were mostly similar levels of support across different age groups and ethnicities and by gender. A striking and unanticipated finding was the high level of support for both the tobacco-free generation and T21 policies among people aged 18–20 years, as this group might have been expected to negatively view having their ability to buy tobacco products restricted. However, the findings align with key themes from a qualitative study with young people in Aotearoa New Zealand that found that most young people attribute a low value to being able to purchase tobacco products and valued more highly the societal benefits, such as protection from addiction and future health harms, that a tobacco-free generation policy would introduce.[30]

The analysis by voting intentions demonstrated cross-partisan support for tobacco control policies, which was strong among supporters of all political parties. This included similarly high levels of support among people who intended to vote for the parties making up the current Coalition Government (albeit slightly lower among NZ First voters). This is particularly salient given the Coalition Government both repealed the Smokefree Aotearoa Action Plan measures and failed to introduce any new tobacco control policies in its own action plan.[31] This further highlights the lack of democratic mandate for the repeal that occurred in 2024.[32] It also reveals a deep disconnect between the current Government's tobacco control actions and public opinion (including that of its own supporters), and reinforces both the political feasibility and imperative for implementing robust tobacco control policies.

The survey also demonstrated strong support for strengthening the regulation of vaping through two measures aiming to reduce the accessibility and affordability of vaping products for young people.

General strengths and limitations are discussed in the methodology article,[29] including the acceptable precision of estimates and the risks of selection and participation biases. A specific strength of the tobacco and vaping policy component of the study is the analysis showing that support for policies was similar by voting intention, despite the very different policy positions of the main political parties.

A minor limitation is that the effective sample size for the question on support for repeal of the Smokefree legislation was reduced due to a wording change, which resulted in the loss of the first 107 responses.[29] Additionally, we did not collect information on smoking or vaping behaviours and therefore could not stratify responses by smoking or vaping sta-

tus. Finally, the tobacco-free generation and mandated denicotinisation policies are conceptually complex and participants may have not understood their detail and nuances. However, both policies were widely discussed when the legislation was introduced and particularly after their proposed repeal, when there was extensive media coverage. In addition, similar levels of support for these policies have been found in other surveys in Aotearoa New Zealand and internationally with a variety of question wordings.[22,24] For example, the EASE survey asked about support for denicotinisation of cigarettes and tobacco in the context of still being able to get nicotine in products other than tobacco products and found similar levels of support among people who smoke or had recently stopped smoking.[24] Further research using in-depth qualitative studies will help explore policy understanding and reasons for supporting or opposing these policies, although where this has been done it has generally reinforced the evidence for strong public support.[30]

Conclusion

In conclusion, this survey demonstrates that the public overwhelmingly supports the implementation of more robust tobacco control interventions to rapidly and equitably reduce smoking prevalence, and that governments have a clear mandate for decisive action. Politicians of all political parties should make introducing strong, effective tobacco control measures a priority and should be held accountable if they fail to do so. Aligning policy with this democratic mandate in order to finally achieve the Smokefree Aotearoa goal for all peoples is an opportunity to greatly improve population health, reduce health inequities, prevent the huge social, environmental and economic costs of tobacco smoking, honour Te Tiriti o Waitangi and protect future generations from the scourge of tobacco.

COMPETING INTERESTS
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R Edwards has received: consulting fees for contribution to an International Tobacco control project (from NIH grant); consulting fees from the CENIC Study (from NIH grant); occasional fees for external PhD marking; occasional honoraria for invited presentations at international scientific meetings; payment for deputy editor services to the Society of Research on Nicotine and Tobacco (SRNT; *Nicotine & Tobacco Research* journal); and travel costs for attendance at the SRNT Oceania meeting/NHMRC Research Centre meeting, Brisbane May 2024. RE is: a member of Preventive Health South Australia Council, 2026–current; a member of the Smokefree Expert Advisory Group, Health Coalition Aotearoa (2019–2024); a member of the National Tobacco Control Advocacy Service Advisory Group, Hapai Te Hauora Māori Public Health (2016–2024); a member of the New Zealand Cancer Society's National Scientific Advisory Committee (2020–2023); chair of the Public Health Communication Centre Expert Advisory Board (2021–2024); and board member/president elect (2024–2025) and president (2025–2026) of the SRNT – Oceania Branch.
A Dodd is an unremunerated advisory member of the Smokefree Expert Advisory Group, Health Coalition Aotearoa (current).
B M McNoe is past executive member of Melnet.

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Availability of data: De-identified survey data may be available from the authors on reasonable request, subject to ethical approval and data governance agreements.

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Public support for policies to create a healthier food environment in Aotearoa New Zealand: findings from a national survey

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ABSTRACT

AIM: The food and beverages we consume affect our risk for developing many types of cancer and other non-communicable diseases (NCDs). Healthy food environments support population-level healthy dietary habits and address diet-related health inequities. This study investigated public support for key evidence-based policies to create a healthy food environment, with a focus on understanding support by voting intention in the context of an election year.

METHODS: Adults, recruited from an online panel via quota sampling, completed a cross-sectional online survey that examined support for evidence-based policies to create a healthy food environment in Aotearoa New Zealand. The range of policies targeted areas such as regulating unhealthy food marketing and sponsorship, food product reformulation and a sugary drinks tax. Data analysis examined support by age group, gender, prioritised ethnicity and voting intention.

RESULTS: We received 1,635 responses after oversampling Māori (n=385, 23.5%, unweighted) and Pacific people (n=368, 22.5%, unweighted). People in Aotearoa New Zealand want politicians to do more to create a healthy food environment. There was substantial support (62.2–88.6%) for the range of policies included in the survey, with majority support across voting intentions for current parliamentary parties (50.2–94.9%).

CONCLUSION: Aotearoa New Zealanders want more action from politicians to create a healthy food environment through evidence-based policies that address factors such as cost, marketing and reformulation, and with no interference from industry. These positive actions would go a long way to addressing the increasing and inequitable health burden of cancer and other NCDs.

The food and beverages (hereafter "food") we consume affect our risk for developing many types of cancer, including cancers of the oesophagus, stomach, colon, liver, pancreas, gallbladder, breast, ovary, kidney, thyroid, blood and brain.[1,2] In 2023 it was estimated that dietary risks caused over 8% of cancer deaths, and excess body weight caused over 6% of cancer deaths in Aotearoa New Zealand.[3] In addition, these food-related risk factors contribute significantly to health loss and deaths from other common non-communicable diseases, including heart disease and diabetes.[3,4] Diet-related disease is disproportionately experienced by Māori and Pacific people and those living in socio-economically deprived communities, contributing to persistent and avoidable health inequities in diet-related disease incidence and mortality in Aotearoa New Zealand.[5–7] As our population continues to grow and age, total health loss and deaths from food-related risk factors will continue to increase, along with costs to the economy and our health system.[8–10]

An estimated 30–50% of cancer cases can be prevented globally, including many caused by dietary factors.[11] Dietary intakes in a population are unlikely to change without changes to the food environment.[12] Unfortunately, Aotearoa New Zealand does not have a comprehensive food strategy, and utilises limited policies, well out of step with international evidence. In Aotearoa New Zealand, the cost of a healthy diet is outside the reach of many families.[13] Unhealthy foods and sugary drinks are widely available, heavily marketed and often cheaper than healthier options, contributing to an obesogenic food environment.[14–16] Children and adolescents are routinely exposed to pervasive marketing of unhealthy foods and sugary drinks across traditional and digital media.[17,18]

Population-based efforts to prevent cancer and/or diet-related disease, such as policies limiting marketing, availability and affordability of unhealthy food, reduce people's exposure to food-

related risk factors, especially when combined with efforts to increase the availability and affordability of healthy foods.[11,19,20] Long term, these factors can drive both individual dietary patterns and wider societal norms in relation to food. Yet, there is much that remains to be done to create a healthy food environment in Aotearoa New Zealand. Key to implementation, as in any democracy, is the extent of public support. Previous surveys of public support for policies promoting healthy food environments are several years old, and public views may have shifted.[21,22]

The current research aimed to improve understanding of public support for key evidence-based policies to create a healthier food environment in Aotearoa New Zealand (as recommended by the World Health Organization [WHO] and World Cancer Research Fund).[19,20] As this is an election year, an analysis of policy support by political party voting intention was included.

Methods

The methods are explained in full in the associated methodology article and only essential details are presented here.[23] In brief, this is a cross-sectional, self-administered online survey study.

Participants were aged 18 years and over, residing in Aotearoa New Zealand. Recruitment was undertaken through an established commercial online research panel. Sampling targets for the initial sample were set using population benchmarks for age, gender and ethnicity derived from the 2023 New Zealand Census, with additional samples recruiting Māori and Pacific people. This approach was intended to support both national estimates and equity-focussed comparisons. Data collection occurred over a 6-week period in November and December 2025. The instrument comprised predominantly closed-ended items addressing public views across multiple areas of cancer policy, including 11 questions specifically related to healthy food environments (Appendix A). For the present paper, analyses were restricted to these 11 survey items relating to healthy food environments and socio-demographic characteristics of participants. Support for or opposition to policies was determined using a six-point scale (*strongly support*, *support*, *slightly support*, *slightly oppose*, *oppose*, *strongly oppose*), with an additional opt-out option (*do not want to answer*). The scale excluded a neutral option, both in order to discourage this as a default response and because we believe that true neutrality would be very rare in the context.

To ensure sample results represent the national adult population in terms of age groups, gender and Māori ethnicity, total (design and poststratification) weights were calculated using Census data. All analyses report actual frequencies and, for all food-related items, survey weighted percentages. Given an effective sample size of 1,161 after weighting, this provided a worst-case 95% margin of error for a total population percentage estimate of ±2.9%. Results are presented for the total population and separately by age groups, gender, prioritised ethnicity and voting intention.

Ethical approval

Ethical approval processes and Māori consultation procedures are detailed in the methodology publication.[23] Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Results

Results are summarised in Tables 1–2. Demographic differences are reported when present. Further stratified analyses are reported in the Appendix Tables (Appendix B).

Overwhelmingly, most of the population (an estimated 79.5%) thinks politicians should do more to create a healthy food environment, (including 42.7% "*a lot more*"). Support was considerably higher among younger people (83.4–87.6% for 18–49-year-olds compared with 66.3% for those aged 65+), and substantial across all ethnic groups (74.5–85.7%). Intending voters across all political parties want greater political action to create a healthy food environment, with desire for more action very high among those intending to vote for the Green Party (97.2%), Labour (85.8%), Te Pāti Māori (78.9%) and NZ First (74.2%), and lower (while remaining a majority) among those intending to vote for National (66.8%) and ACT (53.2%).

A clear majority of Aotearoa New Zealanders support each of the 10 proposed food policies (see Table 1). In addition, our results indicate majority support for all policies, regardless of voting intention (Table 2). "*Government action to reduce the cost of healthy food*" had the most support (88.6% overall support; 53.4% strong support), including substantial cross-party support among voters for current parliamentary parties (76.1–94.9%). Women showed higher support for this policy than men (91.3% versus 85.8% overall support). Over two-thirds of the population

(70.6%) support a law setting limits for the amounts of sugar, fat and salt in food products, with support higher among older age groups (63.9% for 18–20-year-olds compared with 76.1% for 50–64-year-olds and 74.2% for those aged 65+), and a clear majority support across voters (57.9–77.8%). A sugary drinks tax is supported by more than two-thirds of the population (an estimated 67.4%). Support increased to 75.6% if the tax is used to make healthy foods more available/affordable, including strong cross-party support (66.8–86.7%). Older people were more supportive of sugary drinks taxes than younger.

Nearly two-thirds of the population (an estimated 62.2%) support banning marketing of unhealthy food, increasing to 66.3% for banning unhealthy food sponsorship at events attended by under-18-year-olds, 66.5% for banning unhealthy food ads in public places and 72.8% for government support to help sports/community groups stop using junk food sponsors. By voting intention, support was mostly similar for the marketing-related policies. Support for banning unhealthy food sponsorship at events had similar support across the current parliamentary parties (61.3–69.5%) as did no advertising of unhealthy foods in public places (66.5–68.4%, with the exception of ACT 59.0%). Banning marketing of unhealthy foods also had majority support across current parliamentary parties, but with a bit more variation (ranging from 55.9% among ACT voters to 67.7% among Green Party voters).

Of the population, an estimated 79.0% agree that "*The junk food and sugary drinks industry should not be involved in developing government policies (local and national) that create healthy food environments*" (36.3% strong support). Overall support for this policy was higher among older ages (88.5% for those aged 65+ compared with 67.1% for 18–20-year-olds). Further, there was substantial cross-party support among voters that the junk food/sugary drinks industry should not be involved in policymaking to create a healthy food environment (70.9–90.3%).

Government action to reduce the cost of healthy food, no industry involvement in healthy food environment policy, and taxes on sugary drinks (with funds used to make healthy foods more available/affordable) were the top three most-supported policies overall, as well as being the top three for most of the political parties. Green Party voters had the highest or near-highest percentage support for each of the 10 policies (67.7–94.9%). On the other end of the political spectrum, the majority of ACT voters were in support of all policies, though consistently at or near the lowest percentage support for almost all the policies (50.2–79.0%). Supporters of the two main political parties (Labour and National) showed similar levels of support for most policies with one main exception (*Taxes on sugary drinks if the money was spent on making healthy foods more available/affordable*: Labour 80.4%, National 68.2%).

Discussion

There is a strong public appetite among Aotearoa New Zealanders for politicians to do more to create a healthy food environment, with almost four in five agreeing. This support is cross-party, with the majority of intending voters for all political parties agreeing. There is also strong public support for specific policies to improve the food environment, with majority support (62.2–88.6%) indicated for the policies asked about in the survey. These results support the findings of earlier research,[22] indicating there is sustained support for these types of policies to promote a healthy food environment in Aotearoa New Zealand.

There is overwhelming support for government action to reduce the cost of healthy food (nearly nine in 10 support this with more than half indicating strong support). This is not surprising with the current cost of living crisis. The ever-increasing cost of food, which research has indicated is impacting more on healthy food such as fruit and vegetables, compared with unhealthy options such as sugary processed foods, is making it more difficult to maintain healthy dietary habits.[16] Cost is a known driver of dietary habits, particularly among the less wealthy.[24] If the trend of disproportionate price increases for healthy foods continues, it is likely to have long-term detrimental effects on dietary habits at a population level. As more people turn to cheaper unhealthy foods, children grow up with those unhealthy foods as their "norm", leading to less healthy dietary intake in adulthood.[25] Targeted food subsidies are recommended by both the WHO and Te Aho o Te Kahu – Cancer Control Agency as a way to make healthy food more affordable and promote better health outcomes in an equitable way.[11,20] However, identifying the best food subsidy policy design requires careful consideration of local context and consultation with key stakeholders to ensure both overall effectiveness and equitable impact.[20]

Table 1: Public support for policies to rebalance the food environment.

Policies	Total support* n=1,634+	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Government action to reduce cost of healthy food	88.6%	876 (53.4%)	342 (20.6%)	229 (14.6%)	71 (4.5%)	44 (2.7%)	39 (2.1%)	33 (2.1%)
No industry involvement in healthy food environment policy	79.0%	602 (36.3%)	357 (22.1%)	308 (20.5%)	149 (8.6%)	76 (4.7%)	67 (4.0%)	75 (3.8%)
Taxes on sugary drinks—make healthy food more available/affordable	75.6%	568 (34.1%)	379 (24.6%)	282 (16.9%)	140 (8.8%)	104 (6.6%)	117 (6.9%)	44 (2.1%)
Government support groups to stop using junk food/sugary drinks sponsors	72.8%	419 (25.5%)	376 (23.9%)	378 (23.4%)	189 (11.2%)	132 (8.0%)	84 (4.8%)	56 (3.2%)
Limit amount of sugar, fat and salt in food products	70.6%	459 (27.2%)	373 (23.5%)	330 (19.9%)	183 (12.4%)	137 (8.6%)	104 (5.9%)	48 (2.5%)
Taxes on sugary drinks—replace unhealthy food sponsorship	68.8%	430 (26.6%)	372 (23.0%)	305 (19.3%)	208 (12.6%)	145 (8.5%)	105 (6.1%)	69 (3.9%)
Taxes on sugary drinks	67.4%	424 (26.7%)	342 (21.1%)	314 (19.5%)	204 (12.2%)	165 (9.7%)	140 (8.3%)	45 (2.4%)
No unhealthy food ads in public places	66.5%	428 (25.8%)	343 (21.8%)	308 (19.0%)	251 (15.6%)	158 (9.9%)	90 (5.1%)	56 (2.8%)
Ban unhealthy food sponsorship at events under-18-year-olds go to	66.3%	430 (26.3%)	319 (19.2%)	323 (20.8%)	237 (14.4%)	177 (11.0%)	97 (5.6%)	51 (2.7%)
Ban marketing of unhealthy foods	62.2%	375 (23.0%)	293 (18.5%)	338 (20.7%)	267 (16.2%)	199 (12.3%)	110 (6.4%)	52 (2.9%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

Table 2: Total support* to rebalance the food environment by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Should politicians do more to create a healthy food environment?	Yes (a lot more; some more)	1,316 (79.5%)	34 (53.2%)	139 (97.2%)	594 (85.8%)	212 (66.8%)	108 (74.2%)	61 (78.9%)	15 (83.9%)	153 (81.0%)
	No	277 (18.3%)	30 (46.8%)	3 (2.4%)	77 (12.5%)	99 (31.2%)	32 (24.3%)	10 (16.6%)	1 (6.3%)	25 (13.2%)
	DNWTA**	41 (2.2%)	0 (0.0%)	1 (0.4%)	14 (1.7%)	6 (2.0%)	3 (1.4%)	3 (4.5%)	1 (9.7%)	13 (5.9%)
Government action to reduce cost of healthy food	Support	1,447 (88.6%)	46 (76.1%)	135 (94.9%)	623 (91.0%)	269 (83.9%)	125 (88.3%)	65 (87.1%)	16 (96.7%)	168 (88.5%)
	Oppose	154 (9.3%)	18 (23.9%)	8 (5.1%)	50 (7.4%)	43 (12.6%)	15 (10.6%)	6 (9.7%)	1 (3.3%)	13 (6.7%)
	DNWTA**	33 (2.1%)	0 (0.0%)	0 (0.0%)	12 (1.6%)	5 (3.5%)	3 (1.1%)	3 (3.2%)	0 (0.0%)	10 (4.8%)
No industry involvement in healthy food environment policy	Support	1,267 (79.0%)	47 (79.0%)	123 (88.5%)	533 (78.8%)	246 (78.4%)	113 (82.3%)	55 (70.9%)	15 (90.3%)	135 (71.9%)
	Oppose	292 (17.2%)	17 (21.0%)	18 (10.6%)	122 (17.4%)	64 (19.8%)	26 (16.0%)	14 (24.2%)	2 (9.7%)	29 (15.1%)
	DNWTA**	75 (3.8%)	0 (0.0%)	2 (0.9%)	30 (3.8%)	7 (1.8%)	4 (1.7%)	5 (4.9%)	0 (0.0%)	27 (13.0%)
Taxes on sugary drinks—make healthy food more available/affordable	Support	1,229 (75.6%)	39 (66.8%)	120 (86.7%)	542 (80.4%)	223 (68.2%)	104 (71.8%)	57 (74.3%)	14 (80.6%)	130 (69.9%)
	Oppose	361 (22.3%)	25 (33.2%)	21 (12.2%)	127 (17.8%)	91 (31.1%)	36 (27.0%)	15 (23.9%)	3 (19.4%)	43 (22.0%)
	DNWTA**	44 (2.1%)	0 (0.0%)	2 (1.1%)	16 (1.8%)	3 (0.7%)	3 (1.1%)	2 (1.8%)	0 (0.0%)	18 (8.0%)

Table 2 (continued): Total support* to rebalance the food environment by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Government support groups to stop using junk food/sugary drinks sponsors	Support	1,173 (72.8%)	39 (62.7%)	113 (78.7%)	502 (74.9%)	215 (69.0%)	101 (70.7%)	56 (74.0%)	13 (79.7%)	134 (72.5%)
	Oppose	405 (24.0%)	25 (37.3%)	26 (18.2%)	165 (22.6%)	96 (28.9%)	38 (27.3%)	16 (24.2%)	4 (20.3%)	35 (17.3%)
	DNWTA**	56 (3.2%)	0 (0.0%)	4 (3.1%)	18 (2.5%)	6 (2.2%)	4 (2.0%)	2 (1.8%)	0 (0.0%)	22 (10.2%)
Limit amount of sugar, fat and salt in food products	Support	1,162 (70.6%)	39 (59.9%)	108 (77.3%)	506 (74.6%)	221 (69.3%)	95 (57.9%)	53 (70.0%)	13 (77.8%)	127 (68.2%)
	Oppose	424 (26.9%)	25 (40.1%)	35 (22.7%)	164 (23.6%)	88 (28.3%)	45 (41.0%)	17 (26.8%)	4 (22.2%)	46 (22.7%)
	DNWTA**	48 (2.5%)	0 (0.0%)	0 (0.0%)	15 (1.8%)	8 (2.4%)	3 (1.1%)	4 (3.2%)	0 (0.0%)	18 (9.1%)
Taxes on sugary drinks—replace unhealthy food sponsorship	Support	1,107 (68.8%)	30 (50.2%)	116 (84.6%)	479 (72.5%)	222 (69.5%)	87 (59.6%)	47 (58.0%)	12 (69.9%)	114 (60.2%)
	Oppose	458 (27.3%)	33 (48.9%)	25 (14.4%)	179 (24.1%)	88 (27.0%)	51 (37.8%)	23 (38.1%)	5 (30.1%)	54 (28.7%)
	DNWTA**	69 (3.9%)	1 (0.8%)	2 (1.0%)	27 (3.4%)	7 (3.6%)	5 (2.5%)	4 (4.0%)	0 (0.0%)	23 (11.0%)
Taxes on sugary drinks	Support	1,080 (67.4%)	34 (58.4%)	112 (81.6%)	458 (69.3%)	207 (64.0%)	91 (62.8%)	49 (58.8%)	15 (83.9%)	114 (64.2%)
	Oppose	509 (30.3%)	30 (41.6%)	30 (17.8%)	212 (28.5%)	107 (35.2%)	49 (36.0%)	23 (39.4%)	2 (16.1%)	56 (26.7%)
	DNWTA**	45 (2.4%)	0 (0.0%)	1 (0.6%)	15 (2.2%)	3 (0.8%)	3 (1.1%)	2 (1.8%)	0 (0.0%)	21 (9.2%)
No unhealthy food ads in public places	Support	1,079 (66.5%)	36 (59.0%)	96 (66.8%)	460 (66.6%)	208 (66.5%)	96 (68.4%)	49 (66.9%)	13 (79.7%)	121 (66.1%)
	Oppose	499 (30.6%)	28 (41.0%)	46 (32.6%)	203 (30.7%)	103 (31.9%)	43 (29.8%)	22 (30.4%)	4 (20.3%)	50 (24.5%)
	DNWTA**	56 (2.8%)	0 (0.0%)	1 (0.6%)	22 (2.7%)	6 (1.5%)	4 (1.8%)	3 (2.7%)	0 (0.0%)	20 (9.4%)

Table 2 (continued): Total support* to rebalance the food environment by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Ban unhealthy food sponsorship at events under-18-year-olds go to	Support	1,072 (66.3%)	36 (61.3%)	102 (69.5%)	444 (66.1%)	215 (67.8%)	91 (63.2%)	47 (62.6%)	14 (80.6%)	123 (66.5%)
	Oppose	511 (31.0%)	28 (38.7%)	39 (29.5%)	223 (31.5%)	98 (30.8%)	49 (35.7%)	24 (34.7%)	3 (19.4%)	47 (23.8%)
	DNWTA**	51 (2.7%)	0 (0.0%)	2 (1.0%)	18 (2.4%)	4 (1.4%)	3 (1.1%)	3 (2.7%)	0 (0.0%)	21 (9.7%)
Ban marketing of unhealthy foods	Support	1,006 (62.2%)	33 (55.9%)	97 (67.7%)	428 (63.2%)	182 (58.5%)	88 (61.8%)	45 (58.3%)	10 (53.3%)	123 (65.9%)
	Oppose	576 (34.9%)	31 (44.1%)	46 (32.3%)	239 (34.4%)	130 (39.5%)	51 (35.2%)	24 (37.2%)	7 (46.7%)	48 (24.8%)
	DNWTA**	52 (2.9%)	0 (0.0%)	0 (0.0%)	18 (2.4%)	5 (2.0%)	4 (2.9%)	5 (4.6%)	0 (0.0%)	20 (9.3%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**DNWTA = *do not want to answer* response.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies (starting from second item) are reported in descending order of total (combined) support.

Policies that make unhealthy foods that are high in fat, sugar or salt (HFSS) less affordable can help to curb the trend towards low-cost unhealthy foods, especially when combined with policies that improve the affordability of healthy options. We found over two-thirds supported a sugary drinks tax, compared to 2014 when only 44% supported taxing sugar content in drinks.[21] With support from over three-quarters of Aotearoa New Zealanders, the sugary drinks tax policy where funds collected are used to make healthy foods more available/affordable is the most supported tax policy option, and offers a potential partial solution to the problem of the increasing divide between the cost of fruit/vegetables and unhealthy processed foods. Removing or even reducing the cost barrier to healthy food purchasing should also improve equity.

Aotearoa New Zealanders' ability to choose healthy options, already limited by cost, is further impacted by constant exposure to compelling marketing of unhealthy foods. It is critical, particularly in the case of children, to reduce exposure to marketing of unhealthy foods. Such marketing is designed to make these products appear especially appealing and can drive consumers disproportionately towards unhealthy foods. Currently, Aotearoa New Zealand children's worlds are awash with junk food marketing.[18] When asked if they would do anything about junk food marketing if they were prime minister for a day, over two-thirds of children said they would do something, including getting rid of billboards and big signs, and being honest.[26] Support for banning marketing was substantial in the current survey. Almost two-thirds of Aotearoa New Zealanders surveyed support a ban on marketing of unhealthy foods, which is higher than the pre-implementation support for smokefree pubs and bars (56%).[27]

Finally, there is currently an abundance of HFSS processed food products in our food environment.[28] A law setting limits on the amounts of sugar, fat and salt in food products, which saw support from over seven in 10 Aotearoa New Zealanders, would reduce the negative health impacts of these products when they are consumed.

With almost four in five Aotearoa New Zealanders indicating support, the public are clear that the junk food/sugary drinks industry should not be involved in the development of policies to create a healthy food environment. Historically, industry lobbying and influence on government decision making has stalled progress towards a healthy food environment for Aotearoa New Zealanders and contributed to policy inertia.[12] With strong support across the political spectrum of voters, there is a clear mandate for all political parties to stop industry involvement. There is also substantial support for stand-down periods between working for industry and government and clear, enforced rules for lobbyists.[29]

General strengths and limitations are discussed in the methodology article, including reasonable overall precision of estimates and risks of selection and participation biases, but there are also specific issues for the food policy component of the study. While the food policies explored are effective internationally and recommended by the WHO, there are others that were not able to be included in this survey (to minimise respondent burden). For example, reducing the availability of junk food in the environment around schools and in residential areas that children frequent, and a ban on junk food marketing online.[30] Nevertheless, the study indicates a range of possible evidence-based interventions with widespread public support across the political spectrum.

Conclusion

Overall, the message is clear that Aotearoa New Zealanders want politicians to do more to create a healthier food environment, with the cost of healthy food a major concern. They also want an end to food industry interference in policymaking. In addition, there is substantial support for a range of policies (e.g., sugary drinks tax, marketing bans, formulation limits) to improve our food environment. Our health system, which is already under immense pressure, will struggle to cope with ongoing increases in cases of cancer and other non-communicable diseases requiring treatment. Implementation of these policies to create a better food environment will help to reduce the incidence and impact of non-communicable diseases such as cancer, heart disease and diabetes, and provide long-term relief to address the burden on our health system. In addition, these policies should reduce diet-related health inequities (e.g., for people experiencing food insecurity, Māori and Pacific people).

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The public in Aotearoa New Zealand support policies to reduce alcohol harm: results from a national survey

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ABSTRACT

AIM: Alcohol consumption is a cause of at least seven types of cancer and contributes substantially to Aotearoa New Zealand's cancer burden; population-level interventions are one way to reduce this burden. This study therefore investigates: 1) public support for increased action by politicians to reduce alcohol-related harm, and 2) what policies are both strongly supported by the public and have high consistency of support by voting intention.

METHODS: Data are from a nationally representative, cross-sectional online survey examining public support for evidence-based cancer-related policies in Aotearoa New Zealand.

RESULTS: We used oversampling to include a sufficient number of Māori (n=385, 23.5% of the sample) and Pacific people (n=368, 22.5%) among our sample of n=1,635. An estimated 71.1% of the population think politicians should do more to keep people safe from alcohol harm, with majority support across the political spectrum. There was overall majority support for each of the 10 alcohol policies/laws proposed, and cross-party support by voting intention across six policies. Support ranged from 54.9% for increasing the price of alcohol using excise tax to 84.4% for improved online alcohol delivery safeguards.

CONCLUSION: There is strong public support for politicians and the government to act, and to introduce evidence-based alcohol policies recommended by the World Health Organization, with the aim of reducing alcohol-related health burdens, including cancer.

Alcohol is the most widely consumed psychoactive drug in Aotearoa New Zealand and a leading contributor to preventable health, social and economic harm.[1,2] Alcohol has been ranked as the most harmful drug overall in Aotearoa New Zealand, causing greater harm to both users and others than illicit drugs when assessed across health, social, community and economic domains.[3] Alcohol is associated with a diverse range of health harms, including cancer, injury, violence and mental health issues, therefore putting significant pressure on emergency departments and the health system.[4–6] Alcohol consumption is a cause of at least seven types of cancer and contributes substantially to Aotearoa New Zealand's cancer burden.[7] In 2019, alcohol was estimated to account for around 6–7% of all cancer deaths in Aotearoa New Zealand, with disproportionate impacts on Māori and people living in higher-deprivation communities.[8]

Patterns of alcohol use and harm are strongly shaped by availability and access, which is why the World Health Organization (WHO) recommendations for reducing alcohol-related harm include: the use of policies strengthening restrictions on availability; enforcing bans on alcohol advertising, sponsorship and promotion; and raising the price of alcohol.[9] These policies have been assessed as effective in reducing alcohol consumption in a recent global review by the International Agency for Research on Cancer and are recommended by the Cancer Society of New Zealand.[10,11] However, Aotearoa New Zealand's policy environment compares poorly with other high-income jurisdictions.[12] If these evidence-based recommendations were implemented in Aotearoa New Zealand, modelling finds that it would result in both substantial health gains for the total population and reduced inequity for Māori, with 726,000 health-adjusted life years (a measure of the health of the population that combines mortality and morbidity effects) gained across the lifetime of the modelled population, or 87.6 days per person.[13]

Previous public opinion research indicates there is substantial support for these evidence-based alcohol policies in Aotearoa New Zealand.[14,15] Policies such as restricting alcohol marketing and sponsorship, increasing alcohol prices and reducing alcohol availability have previously

received majority support or neutrality, with opposition consistently lower than support.[10,14,15] Despite strong evidence and public support, alcohol policy reform remains challenging.[16] Given the political nature of some of these challenges, coalition building (the process of building alliances among diverse stakeholder groups) has been identified as a means of achieving consensus and policy change.[16,17]

Given that alcohol remains a leading driver of preventable harm (including cancer) in Aotearoa New Zealand, there is a need for stronger alcohol policy grounded in public health evidence. While some Aotearoa New Zealand–specific evidence on public support for alcohol policy options exists,[10,14,15] up-to-date evidence on public support across a range of policy options is essential to inform evidence-based policymaking (particularly given that legislative reform in this area is currently occurring), and to support consensus building, with the aim of reducing alcohol-related harm and advancing health equity in Aotearoa New Zealand. This study (part of a series examining public opinion on cancer-related policies) specifically aims to investigate: 1) how much public support there is for increased action by politicians to reduce alcohol-related harm, and 2) what policies are both strongly supported by the public and have high consistency of support by voting intention.

Methods

This study presents results from a nationally representative, cross-sectional online survey examining public support for evidence-based cancer-related policies in Aotearoa New Zealand. Although the broader survey encompassed multiple cancer policy domains, this brief report focusses specifically on alcohol control policies. Detailed methods are reported in the published study methodology.[18] In brief, 1,635 participants aged 18 years and over were recruited through a large commercial online panel using quota sampling to approximate national distributions by age, gender, ethnicity and region, with deliberate oversampling of Māori and Pacific people.

Data collection occurred between November and December 2025, and used a structured questionnaire. Survey items were primarily closed-ended and covered a range of cancer policy areas, including prevention, early detection, treatment, supportive care and related policy issues. Public attitudes towards alcohol policy were assessed using survey items examining perceptions of government action and support for specific alcohol control measures (Appendix A). Respondents were asked whether politicians should do more to protect people from alcohol-related harm, followed by a series of statements assessing support for evidence-based alcohol policies, including online alcohol delivery safeguards (age and drunkenness tests), limits on alcohol outlet density, cancer warning labels, restrictions on alcohol marketing and sponsorship, pricing and taxation measures and exclusion of the alcohol industry from policy development. The policies asked about in the survey reflect WHO and World Cancer Research Fund policy recommendations that are relevant to cancer prevention,[19–21] with specific policy wording derived or adapted from previously published surveys.[10,14,15] Support for each policy was measured on a six-point scale ranging from *strongly support* to *strongly oppose*, with a *do not want to answer* option available. Views on alcohol availability were additionally assessed by asking whether current alcohol trading hours should be shorter, longer or remain the same.

Total (design and poststratification) weights were applied to align the sample with 2023 New Zealand Census benchmarks for age groups, gender and Māori ethnicity. All analyses incorporated these survey weights and were performed both for the total population and within the subgroups of four demographic variables (age group, gender, prioritised ethnicity and voting intention) (Appendix B). After accounting for weighting, the survey estimates have approximately the same precision as a simple random sample of 1,161 equally weighted respondents. Subsequently, given this effective sample size, the approximate margin of error for a total population percentage estimate is ±2.9% in the worst case.

Ethical approval

Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184). Ethical approval processes and Māori consultation procedures are detailed in the methodology publication.[18]

Results

An estimated 71.1% of the Aotearoa New Zealand population (almost three-quarters) think that politicians should do more to keep people safe from alcohol harm (Appendix tables), and only

27.1% believe that politicians are doing enough to keep people safe from alcohol harm. How much more should be done is relatively even (34.0% felt there should be *some more* action, and 37.1% *a lot more*). Combined desire for more action (*some more* and *a lot more*) varied by voting intention. A higher percentage of Aotearoa New Zealanders intending to vote for Te Pāti Māori (85.1%), the Greens (83.1%) or Labour (79.4%) wanted more action, compared with a lower, but still majority, percentage of those intending to vote for NZ First (58.7%), National (57.4%) or ACT (54.5%). Interestingly, a higher percentage of intending NZ First voters (33.7%) indicated they wanted *a lot more* action compared with intending ACT (19.5%) or National (23.3%) voters.

The overall majority of Aotearoa New Zealanders support each of the 10 alcohol policies/laws proposed (Table 1). Support ranged from an estimated 54.9% for increasing the price of alcohol using excise tax to 84.4% for the requirement of online alcohol delivery safeguards. Almost three-quarters (74.8%) of Aotearoa New Zealanders support that the alcohol industry should not be involved in alcohol harm reduction policy. Support rose for policies when more specificity (e.g., wording that suggests protection of vulnerable groups) was provided in the options and/or when it was specified that this funding would be used to benefit particular groups. For example, while 56.4% supported banning all alcohol marketing and sponsorship, this rose to 77.7% when focussed on banning alcohol sponsorship at events that under-18s attend. Similarly, while an estimated 54.9% of Aotearoa New Zealanders supported using excise tax to raise the price of alcohol, this rose to 65.3% when the question specified that this money would then be used to fund treatment and harm reduction efforts.

When investigating overall high levels of support with low variability of support by voting intentions (Table 2), several policies stood out as being both highly (over 75% total support) and widely (lowest level of support by political party was 60% or greater) supported. These were:

1. A limit on the number of places that can sell alcohol in a neighbourhood (78.2% total support: lowest 68.4% for those who intended to vote for ACT, highest 81.7% for those who intended to vote for the Greens).
2. Banning alcohol sponsorship at sporting, community and other events that under-18s go to (77.7% total support: lowest 66.4% for those who intended to vote for ACT, highest 82.8% for those who intended to vote for Labour).
3. A law that all alcoholic drinks must have a warning label that says alcohol can cause cancer (75.4% total support: lowest 62.6% for those who intended to vote for ACT, highest 81.5% for those who intended to vote for the Greens).
4. Online alcohol delivery safeguards (84.4% total support: lowest 76.5% for those intended to vote for NZ First, highest 89.6% for those who intended to vote for the Greens; NB: support was 56.2% among n=17 Other voters).

Majority support was not consistent across all political parties for four of the 10 proposed alcohol policies (increase excise tax on alcohol—use for treatment/harm prevention, raise the price of cheap alcohol, ban alcohol marketing and sponsorship and increase excise tax on alcohol). A greater percentage of ACT voters opposed, rather than supported, all four of these policies; individuals who would vote National were not more supportive of the latter two policies; and, additionally, those intending to vote for NZ First or Other were more in opposition to the introduction of a policy to increase tax on alcohol. Undecided voters showed majority support for all the alcohol policies asked about (51.8–79.6%). They most supported "*Online delivery age and drunkenness tests same as in stores*" and least supported "*Increase excise tax on alcohol*". A higher percentage of this group chose *do not want to answer* (7.5–12.5%) instead of support or oppose options compared with other voter groups (0–5.3%).

Overall, most people supported reducing the current hours that alcohol can be sold (45.3%) or maintaining them (40.9%); very few (8.0%) supported extending them.

Discussion

This study highlights that there is strong public support for politicians to take more action to reduce alcohol-related harm. Despite a majority of voters from all political parties thinking that politicians should do more to keep people safe from alcohol harm, there were differences between parties from the left and the right of the political spectrum. This suggests that values are strongly influential, and policy support could be

Table 1: Support for alcohol policies.

Policies	Total support* n=1,634+	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Online alcohol delivery safeguards	84.4%	659 (40.7%)	462 (28.2%)	252 (15.5%)	98 (5.9%)	76 (4.4%)	39 (2.5%)	48 (2.8%)
Limit number of places selling alcohol in neighbourhood	78.2%	623 (37.5%)	390 (23.8%)	265 (16.9%)	143 (9.1%)	92 (5.6%)	75 (4.7%)	46 (2.5%)
Ban alcohol sponsorship at events U18s go to	77.7%	630 (38.4%)	366 (23.5%)	249 (15.8%)	142 (8.6%)	133 (7.9%)	78 (4.0%)	36 (1.8%)
Warning label: alcohol can cause cancer	75.4%	515 (31.4%)	395 (23.8%)	328 (20.2%)	146 (9.8%)	115 (7.1%)	67 (3.9%)	68 (3.8%)
No industry involvement in alcohol harm reduction policy	74.8%	560 (34.6%)	349 (22.2%)	297 (18.0%)	184 (10.9%)	101 (6.4%)	64 (3.7%)	79 (4.3%)
Government support to stop using alcohol sponsors	72.3%	488 (30.5%)	352 (21.5%)	320 (20.3%)	180 (10.6%)	148 (9.2%)	83 (4.6%)	63 (3.4%)
Increase excise tax on alcohol—use for treatment/harm prevention	65.3%	420 (24.4%)	337 (22.8%)	293 (18.0%)	180 (11.0%)	189 (11.4%)	162 (9.6%)	53 (2.7%)
Raise price of cheap alcohol	61.3%	388 (23.8%)	316 (19.6%)	287 (17.9%)	225 (13.2%)	192 (12.3%)	163 (9.6%)	63 (3.6%)
Ban alcohol marketing and sponsorship	56.4%	360 (21.9%)	275 (17.3%)	265 (17.2%)	305 (18.4%)	213 (13.0%)	154 (8.6%)	62 (3.7%)
Increase excise tax on alcohol	54.9%	348 (20.5%)	274 (17.8%)	282 (16.6%)	234 (15.3%)	219 (13.6%)	235 (13.8%)	42 (2.4%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
+One person who was not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.
U18s = under-18s.

Table 2: Total support* for alcohol policies by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Online alcohol delivery safeguards	Support	1,373 (84.4%)	50 (81.0%)	126 (89.6%)	595 (87.2%)	267 (84.6%)	113 (76.5%)	65 (89.0%)	10 (56.2%)	147 (79.6%)
	Oppose	213 (12.8%)	14 (19.0%)	16 (9.7%)	77 (10.6%)	44 (13.4%)	24 (20.5%)	7 (9.3%)	6 (38.5%)	25 (11.7%)
	DNWTA**	48 (2.8%)	0 (0.0%)	1 (0.7%)	13 (2.2%)	6 (2.0%)	6 (3.1%)	2 (1.8%)	1 (5.3%)	19 (8.7%)
Limit number of places selling alcohol in neighbourhood	Support	1,278 (78.2%)	42 (68.4%)	119 (81.7%)	557 (81.6%)	237 (74.2%)	109 (76.9%)	60 (81.0%)	13 (71.2%)	141 (75.7%)
	Oppose	310 (19.3%)	22 (31.6%)	22 (17.1%)	112 (16.3%)	75 (24.3%)	31 (22.0%)	12 (17.3%)	4 (28.8%)	32 (15.5%)
	DNWTA**	46 (2.5%)	0 (0.0%)	2 (1.1%)	16 (2.2%)	5 (1.5%)	3 (1.1%)	2 (1.8%)	0 (0.0%)	18 (8.8%)
Ban alcohol sponsorship at events U18s go to	Support	1,245 (77.7%)	40 (66.4%)	115 (80.0%)	549 (82.8%)	233 (73.7%)	102 (73.8%)	54 (70.3%)	13 (77.8%)	139 (74.9%)
	Oppose	353 (20.5%)	24 (33.6%)	26 (18.9%)	126 (15.8%)	82 (25.7%)	38 (25.1%)	18 (28.0%)	4 (22.2%)	35 (17.7%)
	DNWTA**	36 (1.8%)	0 (0.0%)	2 (1.0%)	10 (1.4%)	2 (0.7%)	3 (1.1%)	2 (1.8%)	0 (0.0%)	17 (7.5%)

Table 2 (continued): Total support* for alcohol policies by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Warning label: alcohol can cause cancer	Support	1,238 (75.4%)	39 (62.6%)	116 (81.5%)	544 (79.6%)	243 (75.8%)	104 (67.2%)	58 (77.5%)	12 (67.9%)	122 (67.1%)
	Oppose	328 (20.8%)	25 (37.4%)	24 (15.9%)	117 (17.1%)	68 (22.4%)	34 (30.1%)	12 (19.4%)	5 (32.1%)	43 (20.4%)
	DNWTA**	68 (3.8%)	0 (0.0%)	3 (2.6%)	24 (3.4%)	6 (1.7%)	5 (2.8%)	4 (3.2%)	0 (0.0%)	26 (12.5%)
No industry involvement in alcohol harm reduction policy	Support	1,206 (74.8%)	39 (64.6%)	114 (80.2%)	534 (79.4%)	231 (73.3%)	99 (70.5%)	56 (73.9%)	13 (78.6%)	120 (64.3%)
	Oppose	349 (21.0%)	24 (33.8%)	26 (17.7%)	122 (16.9%)	78 (24.9%)	35 (24.2%)	13 (21.0%)	3 (16.0%)	48 (23.6%)
	DNWTA**	79 (4.3%)	1 (1.6%)	3 (2.1%)	29 (3.7%)	8 (1.8%)	9 (5.3%)	5 (5.1%)	1 (5.3%)	23 (12.1%)
Government support to stop using alcohol sponsors	Support	1,160 (72.3%)	32 (52.0%)	114 (81.5%)	516 (76.6%)	204 (65.5%)	91 (66.4%)	58 (78.1%)	11 (67.0%)	134 (73.5%)
	Oppose	411 (24.4%)	32 (48.0%)	25 (16.4%)	149 (20.7%)	107 (32.8%)	46 (29.9%)	14 (20.2%)	6 (33.0%)	32 (15.1%)
	DNWTA**	63 (3.4%)	0 (0.0%)	4 (2.1%)	20 (2.7%)	6 (1.7%)	6 (3.6%)	2 (1.8%)	0 (0.0%)	25 (11.4%)

Table 2 (continued): Total support* for alcohol policies by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Increase excise tax on alcohol—use for treatment/ harm prevention	Support	1,050 (65.3%)	27 (46.3%)	101 (68.3%)	482 (73.2%)	190 (58.8%)	78 (57.2%)	48 (67.9%)	9 (50.2%)	115 (61.4%)
	Oppose	531 (32.0%)	37 (53.7%)	40 (30.4%)	185 (24.7%)	120 (39.5%)	61 (41.0%)	23 (29.5%)	8 (49.8%)	57 (28.9%)
	DNWTA**	53 (2.7%)	0 (0.0%)	2 (1.3%)	18 (2.1%)	7 (1.7%)	4 (1.8%)	3 (2.7%)	0 (0.0%)	19 (9.7%)
Raise price of cheap alcohol	Support	991 (61.3%)	26 (43.7%)	98 (65.9%)	438 (66.0%)	187 (59.1%)	81 (55.7%)	44 (58.8%)	10 (55.5%)	107 (57.9%)
	Oppose	580 (35.1%)	38 (56.3%)	41 (31.3%)	227 (31.1%)	120 (37.2%)	58 (42.6%)	27 (38.0%)	7 (44.5%)	62 (32.3%)
	DNWTA**	63 (3.6%)	0 (0.0%)	4 (2.9%)	20 (2.9%)	10 (3.7%)	4 (1.7%)	3 (3.2%)	0 (0.0%)	22 (9.8%)
Ban alcohol marketing and sponsorship	Support	900 (56.4%)	23 (38.7%)	94 (66.0%)	396 (59.8%)	157 (49.8%)	73 (55.1%)	46 (63.7%)	11 (61.7%)	100 (54.0%)
	Oppose	672 (39.9%)	41 (61.3%)	47 (32.9%)	272 (37.1%)	149 (46.4%)	65 (42.4%)	24 (33.1%)	6 (38.3%)	68 (35.6%)
	DNWTA**	62 (3.7%)	0 (0.0%)	2 (1.0%)	17 (3.1%)	11 (3.8%)	5 (2.5%)	4 (3.2%)	0 (0.0%)	23 (10.4%)

Table 2 (continued): Total support* for alcohol policies by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Increase excise tax on alcohol	Support	904 (54.9%)	20 (33.5%)	92 (62.7%)	423 (63.3%)	160 (48.5%)	63 (40.5%)	42 (55.5%)	7 (42.4%)	97 (51.8%)
	Oppose	688 (42.7%)	44 (66.5%)	50 (36.7%)	251 (34.9%)	152 (50.0%)	74 (56.3%)	29 (42.3%)	10 (57.6%)	78 (39.9%)
	DNWTA**	42 (2.4%)	0 (0.0%)	1 (0.6%)	11 (1.8%)	5 (1.5%)	6 (3.2%)	3 (2.2%)	0 (0.0%)	16 (8.3%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**DNWTA = *do not want to answer* response.
+One person who was not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.
U18s = under-18s.

particularly impacted by views on the overall role of the state to intervene for health gain and/or beliefs around personal choice/responsibility.[22] Our finding that the public want politicians to do more to reduce alcohol-related harm is consistent with international results from a 2019 survey pooled across seven countries, where 66% thought that governments should be responsible for alcohol-related actions.[23] Interestingly, in this previous study, it was Aotearoa New Zealand respondents who most strongly attributed responsibility to governments (77.8% selected government).[23] The results of the current study also highlight that the Aotearoa New Zealand public support the exclusion of the alcohol industry from policymaking. National and international alcohol advocates agree with the Aotearoa New Zealand public. They argue that excluding the alcohol industry from policymaking is a key strategy for generating political priority for alcohol policy reform.[16] This provides a strong mandate from the Aotearoa New Zealand public for governments and politicians to act, and to reduce the involvement of the alcohol industry in policymaking.

Support for specific policy actions differed, with high levels of support (over 75%) for online alcohol delivery safeguards, limits on retailer numbers, banning alcohol sponsorship at events where under-18s may be present and cancer warning labels. A mixed-methods study from the United Kingdom had similarly found that support differed by policy type, and that perceived effectiveness was a moderator of support.[24] This suggests that communicating the established effectiveness of interventions will influence public opinions and highlights the importance of conducting and publicising policy evaluation studies to enhance public knowledge of policy efficacy. The majority of policies in the current study not only had a high degree of public support, but support for six of the 10 was observed across supporters of different political parties. Therefore, these policies represent opportunities for cross-party consensus. However, these reforms would be made more politically challenging by industry involvement,[25] which further highlights the importance of restricting this influence.

There is strong evidence internationally that increased knowledge of alcohol-related harms is associated with increased support for stronger public health policies.[26–29] This survey did not specifically survey people's knowledge of alcohol-related harm, which is a limitation of the study; nevertheless, previous Aotearoa New Zealand research had found that public awareness of alcohol as a cancer risk factor is low.[14] Only a minority of Aotearoa New Zealanders (18%) spontaneously identify alcohol consumption as increasing cancer risk, although recognition increases substantially when respondents are prompted directly, indicating that awareness is shallow rather than firmly held.[14] This emphasises the importance of increasing public knowledge of the causal link between alcohol and cancer, but in ways that resonate with the public and bridge the known disconnect between expert and public understanding.[30] Our findings reveal strong support for cancer warning labels, which, if implemented, would increase awareness of the link between alcohol and cancer. As previous research suggests, public support for alcohol policies is then likely to further increase as public awareness grows.[26–29]

Beyond the overarching limitations of this survey research[18] (including potential selection and participation bias, an over-representation of those intending to vote Labour and low numbers in some sub-groups where we would expect margins of error to be larger than 2.9% and the corresponding confidence intervals wide), there are some specific alcohol-related limitations. One was that the survey did not ask people if they drank alcohol or at what level, and consumption is known to moderate views on policy responses.[27,31] Furthermore, each demographic variable was only examined descriptively, without epidemiological consideration of potential effect modification, interaction or mediation. Australian studies, however, have suggested that the interaction between age and sex is an important moderator of support for governments to implement prevention policies.[32] Despite these limitations, this survey presents a timely and representative picture of Aotearoa New Zealanders' views on different alcohol policies.

Conclusion

This study reveals strong, broad and consistent public support for politicians and the government to act to reduce alcohol-related harm in Aotearoa New Zealand, including banning alcohol industry participation in policymaking. There is majority support for action across the political spectrum. Further, a significant majority of Aotearoa New Zealanders support the introduction of alcohol policies that are consistent with evidence, and recommended by the WHO, with the aim of reducing alcohol-related health burdens and inequities, including cancer.

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E Shields reports being a full-time employee of Cancer Society of New Zealand during design/development/writing of this paper; an honorary fellow (unpaid role) during design/development/writing of this paper; a panel member of Health Coalition Aotearoa Food and Alcohol Expert Policy Panels (unpaid role); and an honorary fellow at Otago University (unpaid role).
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De-identified survey data may be available from the authors on reasonable request, subject to ethical approval and data governance agreements.

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Public support for government-led skin cancer prevention in Aotearoa New Zealand: findings from a national survey

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ABSTRACT

AIM: We aimed to assess public support for skin cancer prevention policies and examine how responsibility for prevention is perceived across key societal actors.

METHODS: A nationally representative survey of adults in Aotearoa New Zealand assessed support for society-wide regulatory measures, school-based interventions and increased public investment in skin cancer prevention, as well as perceived responsibility across government, institutional and community actors.

RESULTS: We received 1,635 responses, including 385 participants identifying as Māori (23.5%, unweighted) and 368 participants identifying as Pacific peoples (22.5%, unweighted). Support for skin cancer prevention policies was high across all domains. Overall support was 90.1% for government funding of a national SunSmart programme, 91.5% for funding a SunSmart school programme, 90.4% for compulsory school sun-protection policies and 87.3% for Education Review Office (ERO) checks of school sun-protection practices. Support was also high for improving sunscreen affordability (89.1%), regulating sunscreen as a therapeutic product (80.7%) and banning commercial sunbed services (72.5%). Majority support was observed across voting intention. Between 91.4% and 96.3% of respondents assigned at least some responsibility for skin cancer prevention to each actor examined, with schools and government most frequently identified as having a high level of responsibility.

CONCLUSION: There is strong public support for government-led, structural approaches to skin cancer prevention across demographic and political groups of particular interest, indicating high public acceptability and scope to advance effective and equitable prevention policy.

Skin cancer represents a substantial and ongoing public health challenge in Aotearoa New Zealand, which has among the highest incidence rates for melanoma globally.[1] This reflects a combination of relatively high ambient ultraviolet radiation (UVR), predominantly fair-skinned populations and extensive outdoor exposure through work, recreation and daily life.[2] Despite the fact that skin cancer is largely preventable, it continues to impose a significant burden on individuals, the health system and the wider economy.

Primary prevention of skin cancer requires a sustained reduction of population-level UVR exposure across multiple settings, including schools, workplaces and public outdoor environments.[3] Scientific evidence demonstrates that structural and regulatory interventions are more likely to achieve equitable and durable reductions in exposure than approaches relying solely on individual behaviour change,[4] with this pattern also evident in the context of UVR protection.[3] However, in Aotearoa New Zealand, investment in skin cancer prevention has remained relatively limited, with prevention efforts described as fragmented and inconsistently implemented despite long-standing evidence of effectiveness.[3]

In line with Te Tiriti o Waitangi obligations to achieve equitable health outcomes, equity considerations are central to understanding melanoma outcomes in Aotearoa New Zealand.[5] Although invasive melanoma incidence is substantially lower among Māori than non-Māori, Māori are more likely to be diagnosed with thicker and more advanced melanomas and experience markedly poorer survival following diagnosis.[6,7] National surveillance data indicate that melanoma mortality rates have declined since 2015, coinciding with the introduction of more effective treatments for advanced disease; however, substantial survival inequities for Māori persist.[6,8,9] Melanoma mortality increases sharply with age and is

higher among males than females, while population-level melanoma mortality rates are relatively similar across socio-economic deprivation quintiles.[8] When considered together, these patterns point to persistent inequities across the melanoma pathway, particularly at earlier stages of disease where prevention and early detection efforts are most effective. Reducing these inequities will therefore require population-level prevention and early detection policies, which depend on both demonstrable effectiveness and sustained public support.

Despite the substantial skin cancer burden, there is limited contemporary, nationally representative evidence on public support for population-wide and regulatory approaches to reducing UVR exposure. Understanding public preferences is critical for informing policy development, prioritising prevention investment and challenging assumptions that may impede action on preventable risks such as UVR.[10] In addition, examining how responsibility for skin cancer prevention is perceived across government, institutional and community actors provides insight into whether the public views prevention as an individual responsibility or as a shared societal obligation. Such insights are particularly relevant in the context of UVR exposure, which is shaped by environmental, occupational and institutional conditions beyond individuals' control.

This paper aims to assess public support in Aotearoa New Zealand for a range of skin cancer prevention policies, including society-wide regulatory measures, school-based interventions and increased public investment in prevention. It also examines public perceptions of where responsibility for skin cancer prevention lies across key actors, and whether levels of support vary by voting intention and demographic characteristics. By documenting public preferences and perceptions, this study seeks to inform policy discussions and identify areas of alignment or tension between public expectations and current approaches to skin cancer prevention in Aotearoa New Zealand.

Methods

This study presents results from a national cross-sectional online survey examining public support for evidence-informed cancer-related policies in Aotearoa New Zealand. Detailed methods are reported elsewhere in the published study methods paper.[11] In brief, adults aged 18 years and older were recruited through a large commercial online research panel using quota-based sampling to achieve national representation by age, gender and ethnicity, with additional oversampling of Māori and Pacific peoples. After weighting was applied, the effective sample size was 1,161 (from an unweighted sample of 1,635). One further respondent was excluded from analyses because information on voting intention was missing. The approximate worst-case 95% margin of error for a population estimate was ±2.9%. Analyses were descriptive and focussed on summarising public support and perceptions by demographic characteristics.

Data collection took place between November and December 2025 using a structured questionnaire administered via Qualtrics.[11] Participants completed a survey assessing support for a range of skin cancer prevention policies and perceptions of responsibility for prevention (Appendix A). Policy support was assessed for both society-wide and school-based measures. Society-wide items included banning the sale of commercial sunbed services, regulating sunscreen as a therapeutic product, increasing funding for skin cancer prevention and making sunscreen more affordable. School-based items included compulsory sun-protection policies in schools, Education Review Office (ERO) checks of school sun-protection practices and government funding for a national SunSmart school programme. For each policy item, respondents indicated their level of support using a six-point response scale: *strongly support*, *support*, *slightly support*, *slightly oppose*, *oppose* or *strongly oppose*, with an additional option for *did not want to answer* (which was considered informative in itself). Responses were analysed both by individual response category and as combined measures, with "overall support" defined as the combination of *strongly support*, *support* and *slightly support* (with similar for "overall oppose"). Perceptions of responsibility for skin cancer prevention were assessed by asking respondents to indicate the extent to which different actors should be responsible, including central government, local government, schools and early childhood centres, workplaces, sports organisations and non-government organisations. Participants rated each actor's level of responsibility as: *a great deal of responsibility*, *some responsibility*, *a little responsibility* or *no responsibility*, which was further analysed as any degree of responsibility versus none.

Total weights (design and poststratification) aligned the sample with 2023 New Zealand Census benchmarks for age, gender and Māori ethnicity. Survey-adjusted analyses summarised results by age group, gender, prioritised ethnicity and voting intention (Appendix B). Although the wider survey covered multiple cancer policy domains, this paper focusses on skin cancer prevention.

Ethical approval

Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Results

Tables present unweighted counts, while weighted percentages are reported in the tables and text. Support for society-wide skin cancer prevention measures was high (Table 1). Overall support was 90.1% for government funding for a SunSmart programme in Aotearoa New Zealand, 89.1% for making sunscreen more affordable, 80.7% for regulating sunscreen as a therapeutic product and 72.5% for banning commercial sunbed services. Majority support occurred across all age, ethnicity and voting intention groups (see Table 3 for voting intention results, see Appendix B for age and ethnicity results,). Women reported higher overall levels of support than men across all four measures (Appendix B). Stratified analyses by age and voting intention did not materially alter overall patterns.

Support for school-based skin cancer prevention policies was also high, being 87.3% or higher for all measures examined, including compulsory school sun-protection policies, ERO checks and a nationally funded SunSmart school programme. Gender differences were modest, although men were consistently more likely than women to oppose each policy (Appendix B). Support was high across all age groups and stratified analyses by ethnicity did not materially alter overall patterns (Appendix B).

Perceived responsibility for skin cancer prevention was widely shared, with over 70% assigning at least some responsibility to all actor groups examined, including schools and early childhood centres (highest at 96.3%), central and local government, workplaces, sports organisations and non-government organisations (lowest at 91.4%, Table 2). Schools/early childhood centres and government were most frequently identified as having *a great deal* of responsibility. Patterns of perceived responsibility were consistent across age, gender and ethnicity (Appendix B).

Discussion

This study demonstrates strong and broad public support in Aotearoa New Zealand for government involvement in skin cancer prevention, including regulatory, population-wide and school-based approaches. Support for measures such as a comprehensive national SunSmart programme and targeted interventions in schools consistently exceeded 80%, with minimal opposition. These findings provide strong evidence of a public mandate for policy action and directly challenge assumptions that preventive health regulation lacks public legitimacy or political feasibility.

Importantly, support for preventive measures was evident across voters of all major political parties and among those *undecided* about their vote. This cross-partisan support suggests that government inaction cannot readily be attributed to electoral risk or lack of public mandate. Instead, the findings indicate a disconnect between public preferences and policy priorities, reinforcing the feasibility of decisive, evidence-based action on skin cancer prevention.

The results reinforce the framing of skin cancer prevention as a shared societal responsibility, rather than an issue of individual behaviour alone. This is consistent with contemporary public health and systems-thinking approaches, which emphasise upstream interventions that modify environments, institutions and policies to reduce exposure to risk across entire populations.[4] The strong endorsement of structural measures is particularly notable given Aotearoa New Zealand has very high skin cancer incidence and melanoma mortality. In this context, reliance on individual behaviour change is unlikely to be a sufficient or equitable solution to this issue.

Respondents identified schools as a priority setting, including 96.3% attributing responsibility to schools/early childhood centres. This reflects evidence that UVR damage accumulated in childhood and adolescence increases lifetime skin cancer risk.[12] Research shows that schools with comprehensive sun-protection policies demonstrate more consistent sun-protective policies and practices, including hat use, sunscreen encouragement and shade provision.[13] Public support for shade provision demonstrated in other research, particularly in schools, shows the appeal of passive, low-burden interventions that do not rely on sustained

individual compliance and are likely to reduce inequities in protection.[14]

Outdoor workers experience high levels of UVR exposure; however, occupational sun protection is inconsistently addressed in policy and practice across Aotearoa New Zealand, including within current occupational health and safety policy and practice overseen by WorkSafe New Zealand.[15] The findings, including 93.3% attributing responsibility to workplaces/employers, suggest strong public alignment with treating UVR radiation as an occupational health and safety hazard, rather than a personal lifestyle risk. This has important implications for regulatory frameworks, employer obligations and enforcement mechanisms.

The results also indicate robust support for regulation of sunbeds and sun-protection products, aligning closely with the scientific consensus on UVR-related cancer risk. Indoor tanning devices are classified as a type I carcinogen, with clear evidence of increased melanoma risk, particularly with exposure under the age of 35 years.[16] Public endorsement of regulation suggests that such measures would be socially acceptable in Aotearoa New Zealand, consistent with experience in jurisdictions such as Australia that have implemented comprehensive sunbed bans.[17] Similarly, support for stronger regulation of sunscreens reflects public concern about product effectiveness, safety and consumer protection, rather than resistance to regulation per se.

Gender differences observed in this study, with women expressing stronger support for preventive policies, are consistent with international research showing higher female support for public health regulation and preventive interventions.[18] While not the primary focus of this study, these findings highlight the potential role of women as key advocates for cancer prevention.

Taken together, these findings reveal a striking disconnect between public preferences, scientific evidence and current levels of government investment in skin cancer prevention. Despite skin cancer being the most common and preventable cancer in Aotearoa New Zealand, prevention remains chronically underfunded relative to the scale of the burden. Until recently, public investment in skin cancer prevention is less than NZ$500,000 per year, compared with an estimated NZ$450 million per year in treatment costs.[3] This is despite global evidence that investment in skin cancer prevention is highly cost effective and, in many cases, cost saving, from a government funding perspective.[19] These results suggest that political inaction cannot be justified on the basis of public opposition and instead point to a missed opportunity for decisive, evidence-based and cost-effective policy reform. On 30 April 2026, the Cancer Society of New Zealand and the Government announced joint funding of NZ$2 million for the 2026/2027 financial year to support a SunSmart programme.[20]

From a policy perspective, the findings support renewed investment in a nationally co-ordinated SunSmart programme; mandatory sun-protection standards in schools; strengthened regulation of sunbeds and sun-protection products; addressing the affordability of sunscreen; and a shift towards treating UVR exposure as an environmental and occupational risk. A co-ordinated, multi-setting approach has the greatest potential to achieve population health gains, consistent with systems-based models of prevention.[4]

The study as a whole has several key strengths and limitations that are discussed in the methodology article.[11] Recruitment via an online panel may introduce selection bias, as it includes only individuals with internet access and willingness to participate, and the risk of participation bias is introduced through who chose to respond to this survey. The English-only format may have limited participation among some migrant groups, and although weighting achieved alignment with broad population benchmarks, residual differences remain and broader representativeness cannot be guaranteed. The use of a market research company prevented calculation of response rates and assessment of non-response bias. Finally, all measures were self-reported and therefore subject to recall and reporting bias, particularly for sensitive questions.

Conclusion

This study provides strong evidence that the public is ready for, and supportive of, comprehensive government action on skin cancer prevention. Aligning policy with this mandate offers a timely opportunity to reduce avoidable disease burden, improve equity and achieve long-term health and economic benefits.

Table 1: Support for skin cancer prevention policies and government funding in Aotearoa New Zealand.

Policies	Total support* n=1,634+	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Funding SunSmart school programme	91.5%	713 (42.2%)	511 (30.8%)	284 (18.5%)	42 (3.5%)	27 (2.0%)	19 (1.0%)	38 (1.9%)
Schools to have mandatory sun-protection policies	90.4%	753 (44.7%)	504 (30.9%)	240 (14.8%)	61 (5.1%)	26 (1.9%)	16 (0.9%)	34 (1.7%)
Funding a SunSmart programme	90.1%	697 (40.8%)	519 (31.7%)	265 (17.6%)	60 (4.2%)	28 (2.3%)	24 (1.4%)	41 (2.0%)
Increase affordability of sunscreen	89.1%	734 (43.5%)	467 (27.9%)	256 (17.7%)	72 (4.4%)	40 (3.2%)	22 (1.1%)	43 (2.3%)
Education Review Office (ERO) check schools protect students/staff from sun	87.3%	595 (35.6%)	524 (30.8%)	320 (20.9%)	88 (6.1%)	42 (2.5%)	22 (1.3%)	43 (2.8%)
Regulate sunscreen as therapeutic product	80.7%	497 (30.0%)	498 (30.3%)	330 (20.4%)	124 (7.5%)	53 (3.7%)	39 (2.8%)	93 (5.3%)
Ban commercial sunbed services	72.5%	504 (31.0%)	356 (21.8%)	323 (19.7%)	192 (11.5%)	97 (6.6%)	54 (2.9%)	108 (6.5%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

Table 2: Who is responsible for reducing skin cancer in Aotearoa New Zealand?

Organisation	Total of any responsibility* n=1,634+	A great deal of responsibility	Some responsibility	A little responsibility	No responsibility	Do not want to answer
Schools/early childhood centres	96.3%	890 (54.1%)	531 (32.4%)	150 (9.9%)	34 (2.1%)	29 (1.6%)
Central government	95.1%	777 (45.4%)	553 (34.2%)	219 (15.5%)	50 (3.0%)	35 (1.9%)
Local government	95.0%	784 (47.1%)	554 (34.3%)	206 (13.6%)	60 (3.4%)	30 (1.6%)
Workplaces/employers	93.3%	691 (41.1%)	578 (37.5%)	252 (14.8%)	81 (5.0%)	32 (1.7%)
Sports organisations	93.2%	641 (38.8%)	617 (37.4%)	265 (17.0%)	78 (5.1%)	33 (1.7%)
Non-government organisations	91.4%	532 (31.6%)	672 (41.2%)	297 (18.6%)	87 (6.1%)	46 (2.6%)

*Any responsibility = *a great deal of responsibility*, *some responsibility* and *a little responsibility* combined.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Organisations are reported in descending order of total (combined) responsibility.

Table 3: Support* for skin cancer prevention policies and government funding by voting intention in Aotearoa New Zealand.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Funding Sun-Smart school programme	Support	1,508 (91.5%)	54 (83.3%)	135 (95.1%)	656 (94.0%)	290 (91.8%)	126 (87.0%)	68 (90.2%)	17 (100.0%)	162 (86.3%)
	Oppose	88 (6.5%)	10 (16.7%)	6 (3.8%)	20 (4.8%)	25 (7.7%)	12 (10.1%)	4 (8.0%)	0 (0.0%)	11 (5.7%)
	DNWTA**	38 (1.9%)	0 (0.0%)	2 (1.0%)	9 (1.2%)	2 (0.5%)	5 (2.9%)	2 (1.8%)	0 (0.0%)	18 (8.1%)
Schools to have mandatory sun-protection policies	Support	1,497 (90.4%)	56 (87.9%)	136 (95.1%)	646 (92.5%)	287 (90.6%)	121 (78.3%)	65 (87.9%)	17 (100.0%)	169 (90.3%)
	Oppose	103 (7.9%)	8 (12.1%)	7 (4.9%)	29 (6.2%)	26 (8.2%)	18 (19.7%)	7 (10.4%)	0 (0.0%)	8 (3.8%)
	DNWTA**	34 (1.7%)	0 (0.0%)	0 (0.0%)	10 (1.3%)	4 (1.2%)	4 (2.0%)	2 (1.8%)	0 (0.0%)	14 (5.9%)
Funding a SunSmart programme	Support	1,481 (90.1%)	53 (84.9%)	132 (94.0%)	645 (93.4%)	286 (90.4%)	124 (81.3%)	68 (91.8%)	16 (90.3%)	157 (83.9%)
	Oppose	112 (7.9%)	11 (15.1%)	8 (4.2%)	29 (5.2%)	29 (9.1%)	15 (16.5%)	3 (5.9%)	1 (9.7%)	16 (8.1%)
	DNWTA**	41 (2.0%)	0 (0.0%)	3 (1.8%)	11 (1.4%)	2 (0.5%)	4 (2.3%)	3 (2.2%)	0 (0.0%)	18 (7.9%)

Table 3 (continued): Support* for skin cancer prevention policies and government funding by voting intention in Aotearoa New Zealand.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Increase affordability of sunscreen	Support	1,457 (89.1%)	50 (80.4%)	130 (90.9%)	637 (93.4%)	276 (87.5%)	122 (80.7%)	67 (90.2%)	14 (80.7%)	161 (85.7%)
	Oppose	134 (8.7%)	14 (19.6%)	13 (9.1%)	36 (5.1%)	36 (11.0%)	16 (16.4%)	4 (7.3%)	2 (13.0%)	13 (6.5%)
	DNWTA**	43 (2.3%)	0 (0.0%)	0 (0.0%)	12 (1.5%)	5 (1.5%)	5 (2.9%)	3 (2.5%)	1 (6.3%)	17 (7.8%)
ERO check schools protect students/staff from sun	Support	1,439 (87.3%)	51 (81.9%)	131 (91.8%)	628 (90.3%)	275 (87.1%)	115 (75.8%)	63 (84.4%)	13 (74.2%)	163 (87.7%)
	Oppose	152 (9.8%)	11 (15.5%)	12 (8.2%)	45 (8.0%)	38 (11.4%)	19 (14.7%)	9 (13.9%)	3 (19.5%)	15 (6.6%)
	DNWTA**	43 (2.8%)	2 (2.5%)	0 (0.0%)	12 (1.7%)	4 (1.5%)	9 (9.5%)	2 (1.8%)	1 (6.3%)	13 (5.8%)
Regulate sunscreen as therapeutic product	Support	1,325 (80.7%)	47 (76.8%)	120 (83.1%)	585 (84.7%)	257 (80.0%)	108 (74.7%)	58 (76.8%)	11 (60.7%)	139 (75.5%)
	Oppose	216 (14.0%)	15 (20.3%)	18 (14.3%)	68 (10.3%)	50 (17.2%)	26 (19.3%)	12 (20.2%)	4 (26.8%)	23 (11.3%)
	DNWTA**	93 (5.3%)	2 (2.9%)	5 (2.6%)	32 (5.0%)	10 (2.9%)	9 (6.0%)	4 (3.0%)	2 (12.5%)	29 (13.3%)

Table 3 (continued): Support* for skin cancer prevention policies and government funding by voting intention in Aotearoa New Zealand.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Ban commercial sunbed services	Support	1,183 (72.5%)	40 (65.5%)	107 (73.1%)	503 (74.4%)	238 (76.1%)	105 (67.6%)	52 (67.0%)	14 (82.2%)	124 (66.1%)
	Oppose	343 (21.1%)	24 (34.5%)	30 (22.6%)	140 (19.4%)	67 (19.8%)	29 (27.4%)	18 (29.2%)	3 (17.8%)	32 (15.7%)
	DNWTA**	108 (6.5%)	0 (0.0%)	6 (4.3%)	42 (6.2%)	12 (4.1%)	9 (5.1%)	4 (3.8%)	0 (0.0%)	35 (18.2%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**DNWTA = *do not want to answer* response.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

COMPETING INTERESTS
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De-identified survey data may be available from the authors on reasonable request, subject to ethical approval and data governance agreements.

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Public support for better controls on lobbying and industry influence in Aotearoa New Zealand: findings from a national survey

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ABSTRACT

AIM: Effective cancer prevention relies on policy and regulatory environments that limit population exposure to carcinogenic risks, including harmful commodities. In Aotearoa New Zealand, limited regulation of industry influence on health policy has contributed to persistent cancer inequities, particularly for Māori. This study assessed public support for controls on lobbying and industry influence in Aotearoa New Zealand, both generally and specifically relating to unhealthy food and alcohol.

METHODS: A panel-based survey of adults in Aotearoa New Zealand assessed support for proposed lobbying regulations, specifically mandatory rules for lobbyists, cooling-off periods and excluding the alcohol and unhealthy food industries from public health policymaking. Results were weighted by age group, gender and Māori ethnicity, and examined overall and by gender, age, ethnicity and voting intention.

RESULTS: We received 1,635 responses, which included 385 Māori (23.5%, unweighted) and 368 Pacific people (22.5%, unweighted) following oversampling of these groups who are of particular interest. There was strong public support for lobbying regulation measures. Support exceeded 60% across voters of all political parties. Mandatory rules for all lobbyists received the highest support, with over 80% support among voters for each political party and undecided voters. More than 70% overall supported excluding alcohol and unhealthy food industries from health policymaking.

CONCLUSION: There is strong public support for regulating lobbying, indicating a clear public mandate to protect cancer-related policies from vested and commercial interests through strengthened lobbying controls.

Effective cancer prevention depends on policy and regulatory environments that support health and reduce population exposure to carcinogenic risks.[1] In Aotearoa New Zealand, exposure to harmful commodities including tobacco, workplace chemicals, alcohol and unhealthy food environments contributes substantially to preventable cancer burden, particularly for cancers that are unequally distributed across the population.[2]

Te Tiriti o Waitangi is meant to guide health policy in Aotearoa New Zealand, affirming Māori tino rangatiratanga and requiring the Crown to actively protect Māori health and achieve equity.[3] Persistent inequities in cancer incidence and mortality between Māori and non-Māori reflect, in part, long-standing failures to meet these obligations, particularly in the prevention of cancers linked to commercial products and environments.[4]

Policy responses to harmful commodities do not occur in a neutral setting. Well-established international literature describes how commercial actors influence health policy and public discourse to protect commercial interests, including through lobbying, strategic framing of evidence, promotion of voluntary self-regulation and efforts to delay or weaken regulatory action.[5] These activities are now widely understood as part of the "commercial determinants of health", a concept used to describe how private sector practices shape exposure to health risks and contribute to inequities in non-communicable diseases, including cancer.[5]

The Government is a signatory to the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC), which includes an obligation under Article 5.3 to protect against tobacco industry interference in health policy.[6] No comparable conventions exist for other harmful commodity industries despite evidence of similar forms of influence.[7,8] Across these sectors, shared strategies can undermine evidence-based cancer prevention policies, especially where commercial actors are positioned as legitimate participants

in health policy processes.[7] Furthermore, there is evidence that the WHO FCTC Article 5.3 is poorly implemented in Aotearoa New Zealand,[9] with calls to enact it into legislation.[10]

Unlike most Organisation for Economic Co-operation and Development (OECD) countries, Aotearoa New Zealand does not have any lobbying regulations,[11] and lobbying in Aotearoa New Zealand has been relatively sparsely documented.[12] Attempts to regulate lobbying previously failed with the *Lobbying Disclosure Bill* voted down in 2012, partly because of the ambiguity defining what a lobbyist was.[13] It would have included a lobbyist register, mandatory code of conduct and require annual returns to be filed with the Auditor General.[14] However, recent research has attempted to document some of the ways harmful industries lobby in Aotearoa New Zealand, finding that industry actors build long-term relationships with political insiders through repeated, friendly and low-pressure interaction.[14] As a result, vested and commercial interests currently have excessive influence on public policymaking. An imbalance of influence and power can undermine democratic accountability and lead to decisions that have negative effects on the health and wellbeing of people and the environment.[5] Aotearoa New Zealand has been falling in Transparency International's Corruption Perception Index since 2015.[15]

Several recent incidents have highlighted the lack of regulation and the unequal access harmful industries have on health policy decision making. A 2023 Radio New Zealand investigation titled "*Mate, Comrade, Brother*" brought attention to this.[16] It highlighted the many examples of the "revolving door" in Aotearoa New Zealand, where people move between government and lobbying roles and may misuse insider knowledge or connections.[16] In 2024, it was revealed that Aotearoa New Zealand had opted out of new infant formula standards to improve labelling amid the revelation of extensive lobbying by multinational dairy companies.[17] In 2025, emails released under the *Official Information Act 1982* showed that Ministry of Health – Manatū Hauora officials were frequently communicating with alcohol lobbyists, sharing draft policy documents and inviting industry feedback on how public health money should be spent.[18,19] Taken together, these public accounts are reinforced by internal industry communications, which provide insight into how such access is perceived and leveraged by commercial actors. Internal documents from vaping company JUUL revealed that while vaping laws were being developed, tobacco giant Philip Morris International had given a draft piece of vaping regulation to the Government's coalition partner NZ First, who "*put it in the policy mix*".[20] Shane Jones is described as a NZ First MP who "*supports companies that support him. Known to respond to relationship building on the part of companies*."[20] Internal JUUL documents stated that "*The one thing that could drastically change timing and content would be New Zealand First Leader Winston Peters intervening. JUUL should not worry about that. Any regulation he champions is likely to be very industry friendly and highly geared towards commercial interests in the sector*."[20]

Despite these high-profile incidents, little political action to address them has followed. Recent calls for further lobbying regulations in Aotearoa New Zealand such as the "Level the Playing Field" campaign highlight measures needed.[12,21] These include a public register of lobbying, limits on the "revolving door", mandatory codes of conduct, review of the *Official Information Act* and tighter restrictions on political donations. Importantly, they also call for the creation of an integrity commission to monitor and enforce compliance.

Public opinion plays a critical role in informing the political feasibility of regulatory action and in shaping how industry influence is contested in democratic settings. However, there is limited empirical evidence on how Aotearoa New Zealanders view lobbying and industry influence in relation to cancer-relevant industries, or the extent to which public attitudes align with recommended stronger protections against commercial interference.[12,21]

This report forms part of a series examining cancer-related policies and public opinion in Aotearoa New Zealand. Using data from a national census-weighted political survey, we aim to quantify and describe public attitudes towards lobbying and industry influence, both in general and specifically for unhealthy food (including sugary drinks) and alcohol.

Methods

This paper draws on data from a nationwide, cross-sectional online survey designed to assess public views on cancer related policies in Aotearoa New Zealand. Comprehensive methodological details are provided in the published study methodology paper in this series and only essential details will be covered here.[22] In brief, adults aged 18 years and older were recruited via a large commercial online research panel. The

survey was administered between November and December 2025 using a structured questionnaire. Most items were closed and assessed views across multiple cancer policy domains, including prevention, early detection, treatment, supportive care and cross-cutting policy issues relevant to cancer control.

Respondents were asked to indicate their level of support for a series of policy statements related to industry influence and lobbying (Appendix A). These comprised the following: i) politicians and their staff should be required to wait at least 1 year after leaving government before taking employment as lobbyists for the junk food, alcohol or sugary drinks industries; ii) all lobbyists should be required to adhere to a clear set of rules to ensure fair and responsible engagement with government decision making; iii) the alcohol industry should not be involved in the development of government policies (local or national) aimed at reducing alcohol related harm; and iv) the junk food and sugary drinks industry should not be involved in the development of government policies (local or national) designed to create healthy food environments. Responses were recorded using six-point options ranging from *strongly support* to *strongly oppose* with an additional option not to answer that question.

Total (design and poststratification) weights were applied to align the final analytic sample with 2023 New Zealand Census benchmarks for age groups, gender and Māori ethnicity as explained in detail in the methodology publication. We estimated an effective sample size of 1,161 after weighting, which provides an approximate worst-case 95% margin of error for a full-sample percentage of ±2.9%.

Ethical approval

Ethical approval processes and Māori consultation procedures are detailed in the methodology publication.[22] Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Results

Results are summarised in Table 1 (overall) and Table 2 (by voting intentions), with further stratified analyses reported in the Appendix tables (Appendix B). We are unable to provide a response rate as the surveying was conducted by the market research company. Respondents were able to indicate *do not want to answer* but could not otherwise skip questions.

Mandatory rules for all lobbyists drew the highest degree of support overall (Table 1). Support by voting patterns was overwhelmingly positive with over 80% support from voters for all parties including 83.2% for undecided (Table 2).

The 1-year "cooling-off" period had 74.4% (including 36.3% *strongly*) support overall (Table 1). By voting intention, support was high (above two-thirds) among all parties (Table 2).

Excluding junk food and sugary drink industries from health policy development had over three-quarters support overall (79.0%, including 36.3% *strongly*) (Table 1). By voting intention there were clear majorities in favour for all parties, ranging from 70.9% for Te Pāti Māori to 88.5% for the Green Party (Table 2).

Excluding the alcohol industry from health policy development had 74.8% support overall (including 34.6% *strongly*) (Table 1). By voting intention, support ranged from 80.2% for the Green Party to 64.6% for ACT and 64.3% for undecided voters (Table 2).

Across all measures, strong support generally rose with age. By prioritised ethnicity, support was high overall. There were no notable differences between males and females (Appendix B).

Discussion

The results show that there is strong public support for a range of measures to regulate lobbying in Aotearoa New Zealand. Importantly, this support was found regardless of voting intention or ethnicity, only twice dipping below two-thirds support for all policies across all political party voters and all prioritised ethnicities. While voting intention was examined to assess political feasibility across parties, the consistency of support across ethnic groups, particularly among Māori, has distinct relevance in the context of Te Tiriti o Waitangi and obligations to actively protect Māori health. This suggests that there is low political risk for a government to introduce stronger systems that protect public policies from undue vested and commercial influence.

The highest support in this survey was for mandatory rules for all lobbyists. While there was some recent political interest in a code of conduct[23] for lobbyists, little progress appears to have been made, with no updates since 2024.[24]

Our survey found strong support for a 1-year cooling-off period before former politicians/staff

Table 1: Support of lobbying and industry interference policies.

Policies	Total support* n=1,634⁺	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Clear set of rules for lobbyists	88.6%	761 (46.6%)	433 (26.4%)	245 (15.6%)	59 (3.6%)	20 (1.1%)	26 (1.4%)	90 (5.3%)
Junk food and sugary drinks industry should not be involved in government policy	79.0%	602 (36.3%)	357 (22.1%)	308 (20.5%)	149 (8.6%)	76 (4.7%)	67 (4.0%)	75 (3.8%)
Alcohol industry should not be involved in government policy	74.8%	560 (34.6%)	349 (22.2%)	297 (18.0%)	184 (10.9%)	101 (6.4%)	64 (3.7%)	79 (4.3%)
Politicians and staff have to wait for at least 1 year before becoming lobbyists	74.4%	593 (36.3%)	352 (21.2%)	263 (16.9%)	147 (8.9%)	89 (5.3%)	51 (2.9%)	139 (8.5%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
⁺One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

Table 2: Total support* for lobbying and industry interference policies by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Clear set of rules for lobbyists	Support	1,439 (88.6%)	57 (90.1%)	131 (93.3%)	610 (90.7%)	282 (85.7%)	129 (89.3%)	62 (81.6%)	15 (89.4%)	153 (83.2%)
	Oppose	105 (6.1%)	7 (9.9%)	8 (4.4%)	44 (5.1%)	19 (7.3%)	8 (7.4%)	8 (14.5%)	0 (0%)	11 (4.5%)
	DNWTA**	90 (5.3%)	0 (0.0%)	4 (2.3%)	31 (4.2%)	16 (7.0%)	6 (3.2%)	4 (4.0%)	2 (10.6%)	27 (12.3%)
Junk food and sugary drinks industry should not be involved in government policy	Support	1,267 (79.0%)	47 (79.0%)	123 (88.5%)	533 (78.8%)	246 (78.4%)	113 (82.3%)	55 (70.9%)	15 (90.3%)	135 (71.9%)
	Oppose	292 (17.2%)	17 (21.0%)	18 (10.6%)	122 (17.4%)	64 (19.8%)	26 (16.0%)	14 (24.2%)	2 (9.7%)	29 (15.1%)
	DNWTA**	75 (3.8%)	0 (0.0%)	2 (0.9%)	30 (3.8%)	7 (1.8%)	4 (1.7%)	5 (4.9%)	0 (0.0%)	27 (13.0%)
Alcohol industry should not be involved in government policy	Support	1,206 (74.8%)	39 (64.6%)	114 (80.2%)	534 (79.4%)	231 (73.3%)	99 (70.5%)	56 (73.9%)	13 (78.6%)	120 (64.3%)
	Oppose	349 (21.0%)	24 (33.8%)	26 (17.7%)	122 (16.9%)	78 (24.9%)	35 (24.2%)	13 (21.0%)	3 (16.0%)	48 (23.6%)
	DNWTA**	79 (4.3%)	1 (1.6%)	3 (2.1%)	29 (3.7%)	8 (1.8%)	9 (5.3%)	5 (5.1%)	1 (5.3%)	23 (12.1%)
Politicians and staff have to wait for at least 1 year before becoming lobbyists	Support	1,208 (74.4%)	47 (71.7%)	108 (76.5%)	517 (76.9%)	234 (71.7%)	118 (81.7%)	51 (68.1%)	15 (89.4%)	118 (64.5%)
	Oppose	287 (17.1%)	17 (28.3%)	25 (16.8%)	115 (15.6%)	62 (19.9%)	18 (13.6%)	16 (22.5%)	1 (5.3%)	33 (15.8%)
	DNWTA**	139 (8.5%)	0 (0%)	10 (6.7%)	53 (7.5%)	21 (8.4%)	7 (4.7%)	7 (9.5%)	1 (5.3%)	40 (19.7%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**DNWTA = *do not want to answer* response.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

can move into a lobby role. The majority of OECD countries have some kind of cooling-off period for public officials, ranging from around 1 to 5 years.[25] As one of a number of examples, a cooling-off period would have prevented the recent high-profile immediate transition of Kris Faafoi from minister to lobbyist.[26] The Prime Minister's former Chief Press Secretary Hamish Rutherford started working for lobbying firm BRG immediately after leaving his role.[27] Former lobbyist Ben Craven, who worked as Health Minister Simeon Brown's Press Secretary, left his role to work for lobbying firm Iron Duke Partners.[28] David Seymour's ministerial advisor Stuart Wilson joined lobbying outfit Capital NZ.[28]

When Radio New Zealand reported on the Ministry of Health – Manatū Hauora's engagement with the alcohol industry, the deputy director stated that "*Engaging with industry can, and has, yielded meaningful health gains for New Zealanders in the past—and will do so again*."[29] This is despite our survey finding that three-quarters of people support excluding the alcohol industry from policymaking related to reducing alcohol-related harm. Following the investigations, it was announced that the Ministry of Health – Manatū Hauora would establish new "rules of engagement" with the alcohol industry; however, these are yet to be published or implemented.[29]

Trust in government and other democratic systems in Aotearoa New Zealand is falling. In the 2023 General Social Survey, trust in parliament decreased the most in 2023 compared with other institutions such as police, the health system and media, down from 5.7 out of 10 in 2021 to 4.9.[30] Another recent survey found that only 42% of people in Aotearoa New Zealand trust the government to act in people's best interests most or all of the time and around a third think that government leaders abuse power most or all of the time.[31] The cited recent incidents in Aotearoa New Zealand may, in part, have helped shape current public opinion and contributed to our findings of strong support for lobbying controls in this survey.

The overall strengths and limitations of this study are discussed in the methodology article.[22] In short, these are a sample size that provided sufficient precision and the risks of selection and participation bias. Limitations specific to this paper include that while a definition of lobbyist was provided as a pop up in the survey, there is no universal agreed definition of "lobbyist" or what constitutes "lobbying" and this survey did not explore participants' understanding of these terms or activities related to it. Furthermore, lobbying definitions have shifted over time and lobbying itself has become an increasingly complex activity.[14] Early definitions focussed on efforts at direct communication and information sharing (which is seen to be how lobbying is traditionally understood), whereas more recent definitions encompass a much broader range of actions such as efforts to build relationships and shift public opinion.[14] Future research could explore how Aotearoa New Zealanders understand and define lobbying and its activities and their attitudes and views on these.

Views on tobacco and vaping industry lobbying were not directly surveyed in this study. The question about regulating revolving doors between industry and government used the alcohol and unhealthy food industries as examples. The questions on exclusion from policymaking also focussed on the alcohol and unhealthy food industries as tobacco industry involvement in policymaking should be precluded by adherence to Article 5.3 of the WHO FCTC that Aotearoa New Zealand is a signatory to. However, the position of the vaping industry is less clear and Aotearoa New Zealand's fall in global ranking in the 2025 Tobacco Industry Interference Index suggests a marked increase in tobacco industry interference in Aotearoa New Zealand has occurred in the past 2 years and that FCTC Article 5.3 is not being fully implemented.[9] Hence, further research into the public's views on tobacco and vaping industry lobbying and its regulation is warranted.

Conclusion

This survey provides timely evidence of strong public support regardless of political party vote for measures such as mandatory rules for lobbyists, cooling-off periods for government to lobbying roles and the exclusion of harmful industries from health policy development. Taken together, these findings reveal a clear disconnect between public preferences and current levels of lobbying regulation, transparency and political action in Aotearoa New Zealand. The government should bring Aotearoa New Zealand in line with other OECD countries and introduce measures that regulate lobbying activities to help protect policies, including cancer-related policies, from vested and commercial interests.

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Aotearoa New Zealanders' views of policies and funding for human papillomavirus vaccination and screening for cervical and lung cancers: a national survey

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ABSTRACT

AIM: Cancer prevention and early detection are central to reducing cancer incidence, inequities and avoidable mortality in Aotearoa New Zealand. This study examined public support for human papillomavirus (HPV) vaccination policies, equitable cancer screening programmes and willingness to pay more tax for healthcare funding.

METHODS: A nationally representative, cross-sectional online survey of adults aged 18 years or older was conducted in November–December 2025 using quota sampling with oversampling of Māori and Pacific people. Participants reported support for two HPV vaccination policies (single-dose scheduling and increased public investment), two screening policies (free cervical screening and targeted lung cancer screening) and willingness to pay more tax for increased healthcare funding. Weighted analyses were conducted overall and by demographic characteristics and voting intention.

RESULTS: We received a total of 1,635 responses, including 385 participants identifying as Māori (23.5%, unweighted) and 368 participants identifying as Pacific peoples (22.5%, unweighted) following oversampling of these groups of particular interest. Population estimates for support were high for all policies, including single-dose HPV vaccination (77.5%), increased HPV vaccination investment (80.3%), free cervical screening (93.4%) and targeted lung cancer screening (93.3%). Majority support was observed across demographic and political groups. Most people (62.3%) were willing to pay more tax to increase healthcare funding.

CONCLUSION: There is strong public support for HPV vaccination and screening for cervical and lung cancers. Furthermore, the majority of the Aotearoa New Zealanders are willing to pay more tax to increase healthcare funding. This indicates a clear public mandate to governments for action.

Cancer prevention and early detection are central to reducing cancer incidence, inequities and avoidable mortality in Aotearoa New Zealand.[1] The country has made progress through vaccination and organised screening programmes, such as those for cervical, breast and bowel cancers currently available in Aotearoa New Zealand.[1] Yet preventable cancers continue and disproportionately affect Māori and Pacific people, reflecting gaps in access, coverage and system design.[1,2]

Persistent infection with high-risk human papillomavirus (HPV) types is a necessary cause of virtually all cervical cancers[3] and is causally associated with a substantial proportion of other anogenital and oropharyngeal cancers.[4] Consequently, to reduce the burden of disease associated with HPV infection,[5] Aotearoa New Zealand introduced a national HPV vaccination programme for females only in 2008 and has progressively expanded eligibility, adding males in 2017.[6] Currently, HPV immunisation in Aotearoa New Zealand is free for all genders aged 9–26 years; however, vaccination coverage has declined in recent years and remains uneven by region, ethnicity and mode of delivery.[6,7]

There is now strong international evidence that a single-dose HPV vaccination schedule provides substantial protection against HPV infection, and the World Health Organization (WHO) recommends the use of one-dose schedules to simplify delivery and improve uptake.[8] Despite this, Aotearoa New Zealand currently requires two doses for most age groups, and policy advocacy groups have called for law change to enable single-dose scheduling and resource investment to improve vaccination coverage.[9]

Primary prevention and early detection

through screening remain critical for cancers that are not vaccine preventable, and for cervical cancers occurring in people who were beyond the age of eligibility when HPV vaccination became available. Cervical screening programmes in Aotearoa New Zealand have played a major role in reducing cervical cancer incidence over time, particularly following the introduction of organised population screening.[10] More recently, national cervical screening coverage has improved with the transition to HPV primary screening; however, participation remains lower among Māori and Pacific women than the national average.[11,12] HPV-based screening, including the option of vaginal self-testing, is more acceptable to under-screened populations and can improve participation.[12,13] However, persistently lower screening coverage among Māori and Pacific women is associated with a higher burden of cervical cancer, including elevated incidence and mortality, highlighting ongoing inequities in prevention and outcomes.[11,12] Cervical cancer screening in Aotearoa New Zealand is not universally free for all those eligible (people with a cervix aged 25–69).[12,14] Policy proposals to remove cost barriers, by making cervical screening free for all those eligible, aim to address this structural barrier to equitable early detection.[15]

Lung cancer remains the leading cause of cancer death in Aotearoa New Zealand, causing around 1,800 deaths each year.[16] It is also a leading contributor to health inequity for Māori.[17] Māori are over three times as likely to develop (and to die from) lung cancer as people of European/Other ethnicity.[1] While prevention remains key to tackling lung cancer, international randomised trials provide strong evidence that low-dose computed tomography screening of individuals at high risk detects lung cancer at earlier stages and results in a significant reduction of lung cancer mortality.[18] Aotearoa New Zealand–specific modelling and qualitative research together suggest that targeted lung cancer screening for populations at highest risk would be cost effective and acceptable if designed to be equity focussed and culturally appropriate.[19,20] Currently, 11 countries have implemented organised national or regional lung cancer screening programmes. While parameters differ between countries, all utilise a risk-based approach to eligibility.[21]

To inform public debate on these prevention and early detection strategies, this study reports public opinion on HPV vaccination policies and the expansion of targeted and equitable cancer screening programmes in Aotearoa New Zealand.

Methods

This paper presents results from a nationwide cross-sectional online survey examining public attitudes towards evidence-informed vaccination and cancer screening policies in Aotearoa New Zealand. Comprehensive information is reported elsewhere in the study methodology.[22] Essential details will be outlined in brief here, including that participants aged 18 years and older were recruited through a large commercial online research panel. Quota sampling was used to achieve approximate national representativeness across age, gender and ethnicity, with additional oversampling of Māori and Pacific people. Survey data were collected between November and December 2025 using a structured questionnaire. The survey consisted primarily of closed questions addressing policy for cancer prevention, early detection, treatment and care. The present paper focusses specifically on vaccination and screening, drawing on a subset of relevant survey items.

Public attitudes towards HPV vaccination and cancer screening policy were assessed using four survey items included within the questionnaire (Appendix A). Further stratified analyses are reported in the supplementary tables (Appendix B). Respondents were provided with contextual information on each policy issue before being asked to indicate their level of support or opposition to two HPV vaccination policy statements—1) if one dose of the HPV vaccine gives enough protection, that the government reduce the number of doses children need from two to one, and 2) that the government spend more money to increase HPV vaccination rates—and two cancer screening policy statements—3) introducing a free lung cancer screening programme that focusses on people who are most at risk, so the disease can be found earlier and more lives saved, and 4) making the cervical screening programme free for all women aged 25–69. For each statement, respondents selected one response on a six-point scale ranging from *strongly support*, *support*, *slightly support*, *slightly oppose*, *oppose* to *strongly oppose*. A *do not want to answer* option was available for each item. Respondents were also asked about their willingness to pay more tax to increase healthcare funding, assessed with categorical response options (*yes*; *yes if earmarked for healthcare*; *no*; *don't know*).

Total (design and poststratification) weighting was applied to align the sample with 2023 New

Zealand Census population distributions for age groups, gender and Māori ethnicity. Analyses incorporated survey weights and results are reported for both the total adult population and separately by age group, gender, prioritised ethnicity and voting intention. After accounting for weighting, the effective sample size reduced to 1,161, and the approximate worst-case margin of error for a population estimate was ±2.9%. Ethical approval processes are detailed in the methodology publication.[22]

Ethical approval

Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Results

Each of the HPV vaccination policies proposed in this survey had high levels of estimated public support. More than three-quarters of the population supported (combined *strongly support*, *support* and *slightly support*) reducing the number of HPV vaccine doses from two to one (77.5%) and increasing government spending to improve HPV vaccination rates (80.3%) (Table 1). The proportion selecting *do not want to answer* was 7.9% for dose reduction and 6.2% for increased spending.

Support for both policies exceeded 70% across all age groups, ethnicities (except Other) and genders (Appendix B). Support for reducing the number of HPV vaccine doses was highest among New Zealanders aged 50–64 years (81.8%) and those aged 65 years and over (86.7%), and among those of Middle Eastern, Latin American and African (MELAA) ethnicity (87.2%). Similarly, increased spending to improve HPV vaccination rates was most strongly supported by those aged 65 years and over (87.4%) and those of MELAA ethnicity (92.1%). A slightly higher proportion of males supported increased spending compared with females (82.5% versus 78.1%); however, a greater proportion of females selected *do not want to answer* (8.2% versus 4.2%).

Table 2 presents overall support for the HPV vaccination policies by voting intention. There was consistent cross-party majority support for both policies. For reducing the number of HPV vaccine doses, support was lowest among Green (69.7%), Te Pāti Māori (69.6%) and undecided voters (69.0%); notably, 18.0% of undecided voters selected *do not want to answer*. For increased spending on HPV vaccination, support was lowest among NZ First and undecided voters (68.1% and 68.7%, respectively), with 14.8% of undecided voters selecting *do not want to answer*.

There was very high support for making the cervical screening programme free for all women aged 25–69 years (93.4%) (Table 1). Support was highest among those aged 65 years and over (97.2%) and exceeded 90% across all ethnic groups. Females reported slightly higher overall support than males (95.4% versus 91.2%), and a greater proportion of females strongly supported this policy (65.0% versus 51.2%).

Support for introducing a free lung cancer screening programme for people most at risk was also very high (93.3%). Support exceeded 90% across all age groups, with support ranging from 91.4% among those aged 30–39 years to 96.0% among those aged 65 years and over. Pacific people were the most supportive (95.7%), with support exceeding 90% across all ethnicities except the Other group. Females and males both favoured this policy, with females more likely to report strong support (54.0% versus 46.5%).

By voting intention (Table 2), support for making the cervical screening programme free remained very high among all voters. Green (97.9%) and Labour voters (95.2%) were highest, with only undecided voters falling below 90% support. While a clear majority supported introducing a free lung cancer screening programme across all voting groups, those intending to vote for ACT reported the lowest level of support (82.0%), compared with very high support among Green (97.1%) and Labour voters (95.5%).

Finally, a majority of New Zealanders supported paying more tax to increase healthcare funding (62.3%), including 49.9% who preferred that additional revenue be directed exclusively to healthcare. Willingness to pay more tax was highest among Māori (66.9%) and slightly higher among males than females (63.5% versus 60.8%). There was considerable cross-party support for paying more tax to increase healthcare funding. Only those intending to vote for ACT or responding *don't know* did not achieve majority support, although both were higher than those answering *no*. Those intending to vote Green or Te Pāti Māori reported the greatest willingness to pay more tax (both >70%).

Table 1: Support for vaccination/screening policies.

Policies	Total support* n=1,634+	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Free cervical screening for ages 25–69 years	93.4%	978 (58.4%)	388 (24.8%)	163 (10.2%)	37 (2.7%)	19 (1.3%)	17 (1.0%)	32 (1.7%)
Introduce free lung cancer screening	93.3%	842 (50.5%)	468 (29.6%)	209 (13.2%)	51 (3.1%)	22 (1.1%)	13 (0.8%)	29 (1.6%)
Government spend more to increase HPV vaccination rates	80.3%	507 (30.6%)	469 (28.6%)	327 (21.2%)	110 (6.9%)	58 (3.1%)	57 (3.4%)	106 (6.2%)
Reduce the number of HPV vaccination doses to one	77.5%	438 (27.9%)	511 (31.2%)	306 (18.4%)	122 (7.4%)	82 (4.2%)	52 (3.0%)	123 (7.9%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.
HPV = human papillomavirus.

Table 2: Total support* for vaccination/screening policies and more tax for increased healthcare funding by voting intention.

Policies		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Free cervical screening for ages 25–69 years	Support	1,529 (93.4%)	58 (92.1%)	139 (97.9%)	653 (95.2%)	295 (92.4%)	130 (91.2%)	69 (92.4%)	16 (94.7%)	168 (87.7%)
	Oppose	73 (4.9%)	5 (7.1%)	4 (2.1%)	23 (3.4%)	18 (6.6%)	9 (6.8%)	3 (5.8%)	1 (5.3%)	10 (6.6%)
	DNWTA**	32 (1.7%)	1 (0.8%)	0 (0%)	9 (1.4%)	4 (1.0%)	4 (2.0%)	2 (1.8%)	0 (0.0%)	12 (5.7%)
Introduce free lung cancer screening	Support	1,519 (93.3%)	51 (82.0%)	138 (97.1%)	652 (95.5%)	291 (92.5%)	132 (93.4%)	69 (91.3%)	15 (87.4%)	171 (89.8%)
	Oppose	86 (5.1%)	13 (18.0%)	3 (1.5%)	24 (3.3%)	25 (7.1%)	7 (4.5%)	4 (7.7%)	2 (12.6%)	8 (4.6%)
	DNWTA**	29 (1.6%)	0 (0.0%)	2 (1.4%)	9 (1.3%)	1 (0.4%)	4 (2.0%)	1 (0.9%)	0 (0.0%)	12 (5.6%)
Government spend more to increase HPV vaccination rates	Support	1,303 (80.3%)	49 (78.3%)	116 (82.5%)	569 (83.9%)	274 (85.3%)	97 (68.1%)	57 (76.7%)	15 (85.0%)	126 (68.7%)
	Oppose	225 (13.4%)	13 (19.2%)	17 (11.5%)	79 (11.1%)	30 (9.5%)	38 (26.3%)	12 (16.7%)	2 (15.0%)	34 (16.4%)
	DNWTA**	106 (6.2%)	2 (2.4%)	10 (6.0%)	37 (5.0%)	13 (5.2%)	8 (5.6%)	5 (6.7%)	0 (0.0%)	31 (14.8%)

Table 2 (continued): Total support* for vaccination/screening policies and more tax for increased healthcare funding by voting intention.

Policies		Total n=1,634⁺	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Don't know n=191
Reduce the number of HPV vaccination doses to one	Support	1,255 (77.5%)	49 (76.8%)	97 (69.7%)	538 (80.8%)	264 (81.1%)	109 (76.1%)	56 (69.6%)	14 (77.7%)	128 (69.0%)
	Oppose	256 (14.6%)	14 (21.6%)	35 (23.1%)	102 (13.0%)	39 (12.4%)	24 (14.5%)	12 (22.2%)	2 (16.1%)	28 (13.0%)
	DNWTA**	123 (7.9%)	1 (1.6%)	11 (7.2%)	45 (6.2%)	14 (6.6%)	10 (9.4%)	6 (8.1%)	1 (6.2%)	35 (18.0%)
More tax for increased healthcare funding	Yes	215 (12.4%)	2 (3.6%)	34 (26.4%)	100 (13.7%)	30 (8.7%)	23 (14.9%)	12 (12.5%)	4 (25.3%)	10 (4.3%)
	Yes if money used to fund healthcare	819 (49.9%)	28 (45.3%)	72 (49.4%)	361 (53.5%)	177 (53.1%)	61 (38.9%)	39 (60.0%)	5 (28.2%)	76 (41.5%)
	No	458 (28.7%)	33 (46.9%)	29 (20.1%)	171 (25.3%)	88 (29.9%)	45 (32.3%)	16 (17.9%)	6 (37.2%)	70 (37.7%)
	Don't know	142 (9.0%)	1 (4.2%)	8 (4.1%)	53 (7.5%)	22 (8.3%)	14 (13.9%)	7 (9.6%)	2 (9.3%)	35 (16.5%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
**DNWTA = *do not want to answer* response.
⁺One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support
HPV = human papillomavirus.

Discussion

This survey indicates strong public support for prevention and early detection–focussed health policies, with each proposed HPV policy receiving more than 75% support and the two screening policies more than 90% support. Although some variation of support for these policies was shown by voting intention, substantial majority support was still shown for all policies across all voting intentions. Furthermore, approximately two-thirds of New Zealanders are willing to pay more tax to increase healthcare funding, especially if it is earmarked for this purpose.

The most effective way to reduce the burden of cancer in communities is to prevent cancers that are avoidable and to identify disease early through *accessible* and *equitable* primary healthcare and screening programmes.[23] Cervical cancer is highly preventable, and there is a significant opportunity to eliminate this disease by increasing HPV vaccination rates and improving early detection of pre-cancerous lesions and early-stage disease through screening. Aotearoa New Zealand has committed to the WHO's Global Strategy for the Elimination of Cervical Cancer, which sets the 90-70-90 targets for HPV vaccination, screening and treatment by 2030.[24] Despite this commitment, New Zealand's total HPV vaccination rate remains substantially below the WHO target, with only 59.3% of 15-year-olds fully immunised (55% Pacific and 51.4% Māori).[7] This survey demonstrates clear support for increased government investment in the vaccination programme (80.3%) and for adopting a single-dose schedule (77.5%). Given the evidence of improved uptake coupled with substantial protection against infection,[8,25] we strongly encourage the government to implement this schedule as soon as possible.

Support for a fully funded cervical screening programme was extremely high across all voting groups (>90%) except *don't know* voting intention (87.7%). Cervical cancer places a large burden on individuals, whānau and the health system; it is unacceptable that financial barriers continue to prevent some individuals from accessing screening.[26,27] Strengthening primary screening alongside HPV vaccine uptake is essential to achieving elimination goals and addressing persistent inequities for Māori and Pacific people.

Lung cancer is the leading cause of cancer-related mortality in Aotearoa New Zealand, with marked and enduring inequities for Māori.[1,17] It causes one-third of all Māori cancer deaths, about the same number as the next six leading causes of cancer deaths for Māori combined.[28] Nearly half of all lung cancers in Aotearoa New Zealand are diagnosed via the emergency admissions route,[29] and Aotearoa New Zealand has poorer survival outcomes compared with other countries.[30,31] Yet most lung cancers are preventable and early detection by screening for people with a substantial history of smoking can reduce mortality risk by 20–36%.[1] A screening programme aimed at detecting lung cancer at an earlier stage for high-risk groups would lead to earlier diagnoses, less intensive treatment and improved survival rates and improve equity for Māori.[32] This survey clearly demonstrates substantial support for the introduction of a fully funded lung cancer screening programme for those at highest risk, with support remaining strong across all metrics, including voting intention.

The general strengths and limitations of the study are discussed in the accompanying methodology article,[22] including reasonable overall precision of estimates and the potential for selection and participation biases associated with the use of a commercial research panel. In addition, there are limitations specific to this paper. Survey items assessed support for policy directions that are evidenced as effective and were framed as equity focussed and government funded, which may have elicited higher levels of support than would be observed if respondents were required to consider competing priorities and implementation challenges. Questions focussed on broad policy principles rather than programme design details, and did not assess baseline knowledge of HPV, cancer risk or screening effectiveness, which may influence expressed support. Finally, willingness to pay more tax was assessed without specifying the magnitude or duration of tax increases and therefore reflects general acceptability rather than commitment to specific fiscal trade-offs.

Conclusion

This survey provides clear evidence that the Aotearoa New Zealand population firmly favours investment in HPV vaccination and screening for cervical and lung cancers. Furthermore, the majority of New Zealanders are willing to pay more tax to enable increased investment in healthcare. This indicates a clear public mandate to governments to strengthen HPV vaccination and screening for cervical and lung cancers to protect individuals from cancer now and in the future.

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De-identified survey data may be available from the authors on reasonable request, subject to ethical approval and data governance agreements.

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Aotearoa New Zealand public strongly support investment in cancer treatment and care services: findings from a national survey

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ABSTRACT

AIM: Cancer remains a leading cause of morbidity and mortality in Aotearoa New Zealand, with rising incidence, persistent inequities and pressure on diagnosis, treatment and workforce capacity. This study examined public views on government funding, access and delivery of cancer diagnosis, treatment and supportive care services, perceptions of health workforce support and willingness to pay additional tax for healthcare funding.

METHODS: We analysed data from a nationally representative cross-sectional online survey of adults aged 18 years or older conducted between November and December 2025. Participants were recruited using quota sampling, with oversampling of Māori and Pacific people. Weighted analyses assessed support for eight cancer funding proposals, perceptions of health workforce support and willingness to pay additional tax.

RESULTS: We received 1,635 responses, with Māori (n=385; 23.5%, unweighted) and Pacific people (n=368; 22.5%, unweighted) oversampled. All eight proposals received very high support (weighted estimates were 91.4–94.4%), strongest among those aged ≥50 years, and substantial cross-party support by voting intention. Fewer than one-third (29.4%) thought the government was doing enough to support the health workforce. Most (62.3%) were willing to pay additional tax for healthcare funding.

CONCLUSION: There is strong, cross-party support for increased investment in cancer services, alongside concern about health workforce sustainability. Furthermore, there is a willingness to pay additional tax for healthcare funding.

Cancer remains one of the leading causes of illness and death in Aotearoa New Zealand, with substantial impacts on individuals, whānau, communities and the health system.[1,2] Over recent years, public discussion has increasingly focussed not only on cancer prevention and treatment, but also on how cancer services are funded, accessed and delivered.[3–7] Decisions about cancer diagnostic testing, treatment availability, health service infrastructure, workforce capacity and end-of-life care are highly visible to the public and often shape people's experiences of care, trust in the health system and perceptions of fairness.[8]

There are well-reported and key pressures on Aotearoa New Zealand's cancer care system: rising numbers of cancer diagnoses are putting pressure on healthcare services;[2,9,10] it is more difficult and takes longer to obtain diagnostic tests or specialist opinion about suspected cancer than other countries;[11] many diagnoses are made late (after emergency admissions rather than early through screening or primary care);[12,13] compared with other countries we have access to fewer cancer medicines, lower levels of cancer-treatment (radiotherapy) equipment and much higher caseloads per clinical oncologist;[11,14] workforce capacity overall remains an ongoing challenge contributing to longer wait times and reduced access to care;[2,9,15] and there are marked inequities in cancer survival, especially for Māori.[2] Furthermore, primarily due to an ageing and growing population, Aotearoa New Zealand is facing a projected 50–76% rise in cancer diagnoses over the next two decades.[2,10] This, coupled with increasing treatment complexity and the price of cancer medicines and technologies, means that the economic and social costs of cancer care will continue to rise in the future.[9,16] A 45% increase in per capita health spending on cancer is predicted between 2023 and 2050 in Aotearoa New Zealand.[17] However, one in six cancer deaths in Aotearoa New Zealand could be prevented if we were to improve cancer screening, diagnosis and treatment to achieve the best survival rates observed in the Organisation for Economic Co-operation and Development (OECD).[17]

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While not cancer specific, Aotearoa New Zealand's per capita total health expenditure has been consistently between 76% and 86% of the average of 16 OECD comparator countries for decades,[18] and our pharmaceutical spend is only 4.9% compared with the OECD average of 13.3%.[19] This ongoing and marked health system underinvestment comes at a cost. In terms of cancer, underinvestment translates into poorer cancer outcomes than might be expected compared with other OECD countries.[11] Studies have shown that compared with Australia, Aotearoa New Zealand has had consistently higher rates of cancer deaths over decades.[20,21] Most recently, this was estimated as 1,061 excess deaths in Aotearoa New Zealand annually—that is 1,061 Aotearoa New Zealanders (780 women and 281 men) a year who would not have died from their cancer had Australia's death rates also applied to Aotearoa New Zealand.[21] This discrepancy is despite lower cancer incidence rates in Aotearoa New Zealand, and the authors largely attribute the discrepancy to later diagnosis and treatment differences.[11,21] Investment in cancer care is essential if Aotearoa New Zealand is to change this trajectory.

This paper presents findings from a public opinion survey exploring views on several key areas of cancer treatment and care services funding, access and delivery in Aotearoa New Zealand. These areas reflect ongoing national debates and policy priorities across the cancer continuum, from detection through to palliative care. Understanding public perspectives in these domains provides important context for decision makers, advocates and service planners, particularly as the health system continues to adapt to rising cancer incidence, workforce pressures and fiscal constraints.[2,10,15]

Methods

This study presents results from a national cross-sectional online survey examining public support for evidence-informed cancer-related policies in Aotearoa New Zealand. Detailed methods are reported elsewhere in a study methodology paper,[22] and only essential details are presented here. In brief, adults aged 18 years and older were recruited through a commercial online research panel using quota-based sampling to achieve national representation by age, gender and ethnicity with additional oversampling of Māori and Pacific people.

Data collection took place between November and December 2025 using a structured questionnaire that consisted primarily of closed-ended questions addressing cancer prevention, early detection, treatment, supportive care and associated policy areas.[22] Within a dedicated questionnaire subsection, 10 questions related specifically to government-provided cancer treatment services (Appendix A). Eight questions focussed on cancer detection and treatment funding, while two focussed on the health workforce and taxation respectively.

Questions assessed support for increased public investment in: i) cancer testing/diagnostic services and genomic testing; ii) treatment travel assistance (National Travel Assistance scheme); iii) funding of cancer medicines (including medicines for blood cancers); iv) radiation treatment services and the radiation workforce; and v) hospice funding. These policy support items were measured on a six-point scale from *strongly support* to *strongly oppose*, with a *do not want to answer* option.

Perceptions of government support for the long-term health workforce overall (vi), were measured using a five-category agreement scale from *yes, definitely* to *no, definitely not*, including *do not know.* Additionally, there was a *do not want to answer* response category.

Willingness to pay additional tax to increase healthcare funding (vii) was assessed with categorical response options (*yes; yes, if earmarked for healthcare; no; do not know*).

Total (design and poststratification) weighting was applied to align the sample with 2023 New Zealand Census benchmarks for age groups, gender and Māori ethnicity. Analyses produced survey-adjusted estimates and were undertaken both for the total population and separately for age group, gender, prioritised ethnicity and voting intention sub-groups (Appendix B). The worst-case margin of error for a population percentage estimate is approximately ±2.9% (based on an effective sample size of 1,161 after adjusting for weighting).

Ethical approval

Ethical approval processes and Māori consultation procedures are detailed in the methodology publication.[22] Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Results

All eight cancer treatment funding proposals received majority public support in Aotearoa New

Zealand, with estimated total support exceeding 90% for every proposal (Table 1). Overall support ranged from 91.4% for increased funding to support treatment-related travel to 94.4% for improved funding for cancer testing (diagnostic) services. For five of the eight proposals, more than half of the population *strongly* supported the proposed funding increases.

By age group, Aotearoa New Zealanders aged 50 years and over consistently expressed the highest levels of support across all eight funding proposals, with support levels predominantly exceeding 95% among both the 50–64 and 65+ age groups. By ethnicity, support for the funding proposals remained high overall (generally >90%); however, those classified within the "Other" ethnicity grouping reflected comparatively lower levels of support for four of the proposals (76.5% to 84.3%).

When examined by voting intention (Table 2), estimates for those in Aotearoa New Zealand intending to vote for ACT, the Green Party, Labour, National or NZ First demonstrated very high levels of support (>90%) for the majority of the eight funding proposals. Although support among Te Pāti Māori and *Do not know* voters was slightly lower, levels remained high overall, with support typically ranging between 85% and 90%.

Fewer than one-third of the population (29.4%) considered that the government was doing enough to support the long-term future of the health workforce in Aotearoa New Zealand, including 6.9% who responded *yes, definitely—the government is taking strong and effective action* and 22.5% who responded *yes, somewhat—there are positive steps, but more could be done*. A further 16.1% indicated that they did not know.

Support for the view that the government was doing enough generally declined with age. Those in Aotearoa New Zealand aged under 40 years were more likely to agree than older age groups, with the proportion who *definitely* agreed decreasing steadily from 16.6% among those aged 18–20 years to 3.3% among those aged 65 years and over. By ethnicity, Aotearoa New Zealanders identifying as Asian expressed the highest level of agreement (47.1%), which was at least 15 percentage points higher than that observed in any other ethnic group. Agreement was also higher among males than females (36.3% versus 23.0%).

When public perception of whether the government was doing enough to support the future health workforce was examined by voting intention, the percentage who responded *yes, definitely* was very low across the board. It ranged from 4.6% (Te Pāti Māori) to 11.1% (ACT), with most of the difference by voting intention arising in the *yes, somewhat* responses (11.8–42.6%). Individuals intending to vote for parties in the current governing coalition reported higher levels of agreement. However, this pattern was not uniform: agreement was reported by a minority of NZ First and ACT voters (34.4% and 43.6%, respectively), compared with a majority of National voters (53.2%).

A clear majority of the public indicated a willingness to pay more tax to fund healthcare, with 62.3% expressing support overall, including 49.9% who preferred that additional tax revenue be directed exclusively to healthcare funding.

Willingness to pay more tax varied by ethnicity, with those in the Middle Eastern, Latin American, and African (MELAA) group reporting the lowest level of willingness (37.0%) and Māori the highest (66.9%) relative to other groups. By voting intention, people in Aotearoa New Zealand intending to vote for the Green Party or Te Pāti Māori demonstrated the highest willingness to pay more tax to increase healthcare funding (both exceeding 70%), compared with those intending to vote for other parties. Willingness was lower among ACT voters (48.9%) and those who did not know their voting intention (45.8%). Notably, ACT voters showed the narrowest margin between agreement and opposition of any group, with 48.9% willing to pay more tax and 46.9% opposed.

Discussion

This survey found overwhelming cross-party public support (>90% overall, >85% cross-party) for the government prioritising and investing in cancer care services, including diagnosis, treatment, supportive care and end-of-life care (diagnostic and genomic testing services, cancer medicines, radiation, hospice care and travel support to access treatment). Among those aged over 50 years, support was even stronger, with generally more than 95% in favour. Importantly, a majority of Aotearoa New Zealand (62.3%) was also supportive of paying more in taxes to fund increased healthcare investment, although this differed by voting intention. However, of note, nearly 50% of ACT voters would be willing to pay more tax for greater investment into Aotearoa New Zealand's healthcare, despite intending to vote for a party that values keeping taxes low.[23]

"*Cancer continues to be one of the most pressing public health challenges, with far-reaching*

Table 1: Support for treatment/care policies.

Policies	Total support* n=1,634+	Strongly support	Support	Slightly support	Slightly oppose	Oppose	Strongly oppose	Do not want to answer
Government spend more on cancer testing services	94.4%	943 (56.0%)	451 (28.5%)	147 (9.9%)	40 (2.6%)	20 (1.3%)	9 (0.5%)	24 (1.2%)
More government money to fund cancer medicine	94.0%	846 (50.8%)	468 (29.3%)	219 (13.9%)	36 (2.2%)	20 (1.3%)	12 (0.7%)	33 (1.8%)
More government funding for medicines for people with blood cancer	94.0%	844 (50.8%)	481 (29.3%)	208 (13.9%)	36 (2.2%)	15 (1.1%)	14 (0.8%)	36 (1.8%)
Increased funding for radiation treatment services	93.4%	832 (49.7%)	492 (30.7%)	198 (13.0%)	42 (2.7%)	17 (1.0%)	16 (1.0%)	37 (1.8%)
Increased funding for radiation workforce	93.4%	873 (52.2%)	454 (28.1%)	193 (13.1%)	45 (2.8%)	23 (1.5%)	10 (0.5%)	36 (1.8%)
Increased funding for cancer patients to have genomic testing	93.2%	862 (51.7%)	459 (28.5%)	202 (13.0%)	47 (3.1%)	19 (1.2%)	8 (0.4%)	37 (2.1%)
Government funding to cover higher percentage of hospice care	92.9%	705 (41.8%)	521 (33.1%)	280 (18.1%)	63 (3.3%)	25 (1.7%)	9 (0.6%)	31 (1.6%)
Increased government funding for travel for treatment costs	91.4%	761 (45.2%)	475 (29.5%)	265 (16.7%)	56 (3.6%)	20 (1.4%)	14 (0.8%)	43 (2.7%)

*Total support = *strongly support*, *support* and *slightly support* responses combined.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

Table 2: Total support* for treatment/care policies and more tax for healthcare funding by voting intention.

Policies/items		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Government spend more on cancer testing services	Support	1,541 (94.4%)	61 (95.2%)	137 (97.1%)	654 (95.4%)	308 (96.8%)	131 (90.4%)	64 (85.1%)	16 (90.3%)	170 (90.7%)
	Oppose	69 (4.4%)	3 (4.8%)	5 (2.3%)	25 (3.8%)	9 (3.2%)	8 (7.5%)	9 (14.0%)	1 (9.7%)	9 (4.5%)
	DNWTA**	24 (1.2%)	0 (0.0%)	1 (0.6%)	6 (0.8%)	0 (0.0%)	4 (2.0%)	1 (0.9%)	0 (0.0%)	12 (4.8%)
More government money to fund cancer medicine	Support	1,533 (94.0%)	61 (94.9%)	136 (95.8%)	651 (94.7%)	303 (95.8%)	130 (91.7%)	68 (91.7%)	15 (85.0%)	169 (89.8%)
	Oppose	68 (4.2%)	3 (5.1%)	6 (3.6%)	23 (3.3%)	12 (3.7%)	11 (7.6%)	4 (6.0%)	1 (9.7%)	8 (4.5%)
	DNWTA**	33 (1.8%)	0 (0.0%)	1 (0.6%)	11 (2.0%)	2 (0.5%)	2 (0.8%)	2 (2.3%)	1 (5.3%)	14 (5.7%)
More government funding for medicines for people with blood cancer	Support	1,533 (94.0%)	61 (95.6%)	135 (94.9%)	652 (94.9%)	303 (95.3%)	134 (94.3%)	66 (88.5%)	14 (80.5%)	168 (89.9%)
	Oppose	65 (4.2%)	3 (4.4%)	5 (3.3%)	22 (3.3%)	11 (3.8%)	6 (4.7%)	7 (10.6%)	2 (14.2%)	9 (5.1%)
	DNWTA**	36 (1.8%)	0 (0.0%)	3 (1.8%)	11 (1.7%)	3 (1.0%)	3 (1.0%)	1 (0.9%)	1 (5.3%)	14 (5.0%)
Increased funding for radiation treatment services	Support	1,522 (93.4%)	60 (93.6%)	136 (96.2%)	653 (96.0%)	297 (93.6%)	132 (92.2%)	64 (85.2%)	16 (90.3%)	164 (85.9%)
	Oppose	75 (4.7%)	4 (6.4%)	6 (3.4%)	23 (2.8%)	15 (4.9%)	7 (6.3%)	8 (12.7%)	1 (9.7%)	11 (7.3%)
	DNWTA**	37 (1.8%)	0 (0.0%)	1 (0.4%)	9 (1.2%)	5 (1.5%)	4 (1.6%)	2 (2.1%)	0 (0.0%)	16 (6.8%)
Increased funding for radiation workforce	Support	1,520 (93.4%)	59 (92.6%)	138 (97.4%)	647 (94.9%)	296 (93.5%)	132 (92.9%)	67 (89.4%)	16 (90.3%)	165 (87.2%)
	Oppose	78 (4.8%)	5 (7.4%)	4 (2.2%)	29 (3.7%)	16 (5.3%)	6 (5.1%)	6 (9.7%)	1 (9.7%)	11 (6.4%)
	DNWTA**	36 (1.8%)	0 (0.0%)	1 (0.4%)	9 (1.4%)	5 (1.2%)	5 (2.0%)	1 (0.9%)	0 (0.0%)	15 (6.4%)

Table 2 (continued): Total support* for treatment/care policies and more tax for healthcare funding by voting intention.

Policies/items		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
Increased funding for cancer patients to have genomic testing	Support	1,523 (93.2%)	59 (92.0%)	134 (94.3%)	648 (94.7%)	304 (95.4%)	130 (90.3%)	68 (89.3%)	17 (100.0)	163 (86.5%)
	Oppose	74 (4.7%)	5 (8.0%)	5 (2.6%)	24 (3.3%)	13 (4.6%)	9 (7.7%)	5 (9.8%)	0 (0.0%)	13 (6.5%)
	DNWTA**	37 (2.1%)	0 (0.0%)	4 (3.1%)	13 (2.0%)	0 (0.0%)	4 (2.0%)	1 (0.9%)	0 (0.0%)	15 (7.0%)
Government funding to cover higher percentage of hospice care	Support	1,506 (92.9%)	52 (83.3%)	134 (94.5%)	647 (95.4%)	289 (90.7%)	131 (93.4%)	69 (93.1%)	16 (90.3%)	168 (90.2%)
	Oppose	97 (5.5%)	12 (16.7%)	6 (3.8%)	30 (3.6%)	24 (8.0%)	9 (5.2%)	4 (5.9%)	1 (9.7%)	11 (4.8%)
	DNWTA**	31 (1.6%)	0 (0.0%)	3 (1.7%)	8 (1.0%)	4 (1.3%)	3 (1.3%)	1 (0.9%)	0 (0.0%)	12 (4.9%)
Increased government funding for travel for treatment costs	Support	1,501 (91.4%)	54 (85.7%)	137 (96.8%)	645 (93.5%)	287 (89.7%)	130 (88.3%)	68 (90.5%)	14 (82.0%)	166 (88.9%)
	Oppose	90 (5.9%)	9 (12.8%)	3 (1.3%)	27 (4.4%)	22 (7.6%)	11 (9.5%)	5 (8.6%)	1 (6.2%)	12 (5.0%)
	DNWTA**	43 (2.7%)	1 (1.5%)	3 (1.9%)	13 (2.2%)	8 (2.7%)	2 (2.1%)	1 (0.9%)	2 (11.7%)	13 (6.1%)
Government doing enough to support future of health workforce?	Yes	457 (29.4%)	27 (43.6%)	26 (20.0%)	138 (21.3%)	160 (53.2%)	54 (34.4%)	20 (22.6%)	0 (0.0%)	32 (17.1%)
	No	874 (53.0%)	25 (37.6%)	102 (69.3%)	439 (64.3%)	95 (29.6%)	61 (43.5%)	38 (54.6%)	15 (88.4%)	99 (53.3%)
	Do not know	275 (16.1%)	11 (17.5%)	14 (10.1%)	100 (13.3%)	60 (16.8%)	25 (20.7%)	15 (21.9%)	2 (11.6%)	48 (23.9%)
	DNWTA**	28 (1.5%)	1 (1.3%)	1 (0.6%)	8 (1.2%)	2 (0.4%)	3 (1.4%)	1 (0.9%)	0 (0.0%)	12 (5.6%)

Table 2 (continued): Total support* for treatment/care policies and more tax for healthcare funding by voting intention.

Policies/items		Total n=1,634+	Voting intent if election held tomorrow							
			ACT n=64	Green n=143	Labour n=685	National n=317	NZ First n=143	Te Pāti Māori n=74	Other n=17	Do not know n=191
More tax for increased healthcare funding	Yes	215 (12.4%)	2 (3.6%)	34 (26.4%)	100 (13.7%)	30 (8.7%)	23 (14.9%)	12 (12.5%)	4 (25.3%)	10 (4.3%)
	Yes, if money used to fund healthcare	819 (49.9%)	28 (45.3%)	72 (49.4%)	361 (53.5%)	177 (53.1%)	61 (38.9%)	39 (60.0%)	5 (28.2%)	76 (41.5%)
	No	458 (28.7%)	33 (46.9%)	29 (20.1%)	171 (25.3%)	88 (29.9%)	45 (32.3%)	16 (17.9%)	6 (37.2%)	70 (37.7%)
	Do not know	142 (9.0%)	1 (4.2%)	8 (4.1%)	53 (7.5%)	22 (8.3%)	14 (13.9%)	7 (9.6%)	2 (9.3%)	35 (16.5%)

*Total support = *strongly support*, *support* and *slightly support* responses, combined. Yes = *yes, definitely—the government is taking strong and effective action* and *yes, somewhat—there are positive steps, but more could be done*, combined. No = *No, not really—efforts are lacking or insufficient information* and *No definitely not—the government is failing to support the health workforce*, combined.
**DNWTA = *do not want to answer* response.
+One person who stated that they were not eligible to vote was excluded from this table.
Unweighted raw counts and weighted percentages are reported in this table.
Policies are reported in descending order of total (combined) support.

consequences for health systems, economies, and societies",[16] including for Aotearoa New Zealand.[17] Currently, just over 29,000 people are diagnosed with cancer each year in Aotearoa New Zealand; however, this is projected to rise substantially to around 45,000 by 2040 as the population grows and ages.[2,10] Aside from the incalculable costs these new cancer diagnoses will place on individuals and their whānau, additional pressures will be placed on government-funded cancer care services, which are already under pressure to meet current demand[11,24] and lag behind comparable countries in many aspects.[11,12,15,24] While population ageing will increase cancer incidence and associated service demand, it will also constrain Aotearoa New Zealand's taxation-based health system funding, as a proportionally smaller working-age population supports rising health expenditure.[25] Other impacts, such as improvements in cancer survival, will also likely increase service demand. Investment in prevention, screening and early diagnosis—along with changes to models of care—will be increasingly important to reduce treatment costs and service burden. Alongside increased taxation, which is supported by the majority of Aotearoa New Zealanders, fiscal changes across policy portfolios outside of health may also be required. Otherwise, public expectations of universal access to high-quality cancer care will not be achieved. The burden of cancer across all facets of Aotearoa New Zealand's society now, and in the future, cannot be overstated.

The survey also identified public concern about the level of government support for the health workforce. Fewer than one-third of the population (29.4%), believed the government was doing enough. Concerns about the sustainability of the cancer workforce, particularly in radiation oncology, have also been well documented in the media.[6,26] An insufficient workforce can negatively affect patient waiting times, access to diagnosis and treatment and the overall quality of care.[2,27,28] For every new investment in cancer care, investment in the workforce required to deliver that care is essential. While the recent announcement of expanded cancer infusion services[29] will undoubtedly be seen as positive, especially by those who must travel long distances to access treatment, access to treatment is not only about having more medicines delivered in facilities closer to home.[2] Rather, it needs a whole-of-system approach to cancer care, including an adequate workforce.[13]

The general strengths and limitations of the project as a whole are discussed in the accompanying methodology article.[22] These include reasonable overall precision of estimates, as well as the potential for selection and participation biases associated with the use of a commercial marketing panel. In addition, there are strengths and limitations specific to the cancer treatment component of this study. The survey did not distinguish between funding for medicines and funding for treatment delivery capacity (such as workforce, facilities or infusion infrastructure), and respondents may therefore have interpreted the concept of "treatment funding" differently.

Furthermore, although support for treatment funding was overwhelming, the findings do not capture public understanding of implementation constraints or trade-offs, including available resources, workforce shortages, regional variation in service availability or the time required to scale treatment capacity. We acknowledge that the survey questions do not address these realities, and that presenting each proposal independently allowed respondents to support multiple funding proposals simultaneously, which may therefore have produced higher levels of support than would be observed if respondents were required to make trade-offs between competing priorities. However, the main objective of the present study was to determine support for individual policies, rather than potential trade-offs. These could be investigated in future research.

The issue of investment or underinvestment across Aotearoa New Zealand's cancer care services is critical. It represents human illness and death. It is the 81 people diagnosed with cancer, and the 29 who die from it, each day in Aotearoa New Zealand.[30] It is also the 1,000+ Aotearoa New Zealanders a year who would not die from their cancer had they lived in Australia.[21] That the authors attribute this to differences in our health system's governance, funding, workforce and performance should back up the concerns of the public and strengthen the argument for better access to the high-quality and equitable cancer care that Aotearoa New Zealanders deserve.

Conclusion

This survey clearly demonstrates that the public is highly concerned about the level of funding for cancer diagnosis, access and treatment in Aotearoa New Zealand. There is strong cross-party support for increasing investment in cancer services and

for strengthening and protecting the health workforce. Additionally, and importantly, there was majority support (62.3%) for paying additional tax to help fund the delivery of healthcare. These results should serve as a call to action for politicians and policymakers to prioritise investment in cancer treatment and care services in Aotearoa New Zealand.

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Public support for cancer prevention and care policies in Aotearoa New Zealand: methods of a national survey

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ABSTRACT

AIM: Our aim was to describe the shared elements involving design, sampling, weighting and analytic framework of a national survey of public views on cancer prevention and care in Aotearoa New Zealand for the seven topic-specific brief reports in this issue of the *New Zealand Medical Journal*.

METHODS: We conducted a nationwide, self-administered, cross-sectional online survey of adults aged 18 years or older between November and December 2025. Participants were recruited via an established online research panel using quota sampling aligned to 2023 Census benchmarks for age, gender and ethnicity, with additional recruitment to ensure adequate Māori and Pacific representation. The survey assessed public views across cancer prevention, vaccination, early detection, treatment and care, alongside political and advocacy contexts. Design and poststratification weights were applied to align the sample with population benchmarks for combinations of age groups, gender and Māori ethnicity. Analyses were descriptive and stratified by key socio-demographic characteristics, namely age, gender, ethnicity and voting intentions.

RESULTS: A total of 1,635 participants completed the survey. The effective weighted sample size was 1,161, corresponding to a worst-case margin of error of ±2.9% overall.

CONCLUSION: This paper provides methods for a series of policy-relevant brief reports that examine public support for cancer prevention and care in Aotearoa New Zealand.

This paper is intended to provide the methodological foundation for a co-ordinated series of analyses examining public support for cancer prevention and care policies in Aotearoa New Zealand. By outlining the study design, sampling approach and analytical framework, it supports transparency and consistency across the accompanying reports. The use of a standalone methods paper also enables a clear and consistent description of the study design across the series, reducing duplication and strengthening the interpretability of findings.

Cancer remains one of the leading causes of mortality and morbidity in Aotearoa New Zealand, and effective prevention, early detection, treatment and supportive care policies are essential for reducing the burden of disease.[1] Public support is increasingly recognised as one contributor to the legitimacy and political feasibility of cancer prevention and care policies in democratic settings.[2] Understanding public views across key domains of cancer prevention and care is therefore relevant to both policy development and implementation in Aotearoa New Zealand. This study was designed to assess public views across multiple topic areas relevant to cancer prevention and care, using a national weighted survey.

Overall, this framework provides a robust and practical basis for examining public views on cancer-related policies in Aotearoa New Zealand and contributes to the evidence base informing population-level prevention and care strategies.

Study design and methods

A nationwide, self-administered, cross-sectional survey was conducted to assess public support for cancer-related policies in Aotearoa New Zealand. The survey used structured, predominantly closed-ended questions (Appendix A) and was delivered online.

Study population and sampling

Participants were recruited via an established online research panel provider (Dynata). Dynata's panel comprises individuals who have opted in to participate in survey research and includes 297,000 panel members within Aotearoa New Zealand.[3] Panel members are recruited through

a combination of direct recruitment (e.g., online advertising and invitations to join the panel managed by Dynata) and partnerships with third-party platforms (such as loyalty or rewards programmes and other online networks), resulting in a multi-source panel. Members voluntarily enrol and provide profiling information, which is used to identify and invite eligible participants to specific surveys. Participation is incentivised, with respondents typically offered points, rewards or similar compensation for completing surveys. Panel members are typically verified and subject to quality control procedures designed to support valid and reliable responses.

Sampling for this study was conducted by inviting panel members who met predefined demographic criteria and to achieve sufficient representation of Māori and Pacific participants. Quota sampling was used to align recruitment targets for the initial sample with population benchmarks for age, gender and ethnicity based on the 2023 New Zealand Census.[4] To ensure adequate representation of Māori and Pacific peoples within the sample, minimum target sample sizes were specified for these groups. Where these targets were not achieved during initial recruitment, additional targeted invitations were issued to panel members from these groups (augmentation), resulting in intentional oversampling.

Additional samples were combined with the initial sample to achieve an analytic sample of at least 1,500 participants, with targeted recruitment of Māori and Pacific peoples to enable ethnicity-specific analyses. Minimum sample sizes of 356 participants per ethnicity group were identified, providing sufficient precision for ethnicity-specific estimates (prior to data collection and without accounting for design effects, this would allow 95% confidence intervals ±2.5% for the total population and ±5.2% for Māori and Pacific estimates in the worst-case scenario where prevalence was 50%).

Following the calculation of weights (design and poststratification), approximate design effects were calculated, giving an effective sample size of 1,161 in terms of the equivalent number of responses from a simple random sample. This allowed for a worst-case margin of error of 2.9% overall. The equivalent margin of error within prioritised ethnicities[5] was 5.7% for Māori and 6.2% for Pacific peoples. As recruitment was conducted via an existing online panel, a conventional response rate (overall or by sub-group) could not be calculated, limiting assessment of potential non-response bias. This is consistent with other Aotearoa New Zealand panel-based surveys. Online panels are widely used for population-level assessment of policy attitudes where probability sampling is impractical.[6]

Eligibility criteria

Participants were eligible if they were aged 18 years or older, resided in Aotearoa New Zealand, had internet access and were able to read and write in English.

Recruitment and consent

The research panel provider (Dynata) managed recruitment using its standard procedures. Participants provided consent electronically prior to beginning the survey.

Data collection

Data were collected using a Qualtrics-hosted online survey. Questionnaire completion time was generally between 15 and 20 minutes. Data collection occurred over a 6-week period in November to December 2025.

The survey instrument was tested with five individuals before being submitted to the research panel provider, and modifications were made to improve question clarity and understanding. A soft launch with a target of 100 panel members was then conducted to further assess question clarity and survey flow. Feedback from this phase led to the refinement of only one question (about the current Government's repeal of the 2022 Smoke-free legislation, where we were concerned about the understanding of "repeal" in this context) prior to the full launch. The earlier collected data for this question were not used, reducing the sample size by 107 only when it is reported on.

Survey instrument

Survey variables were finalised in consultation with the Cancer Society of New Zealand and subject matter and methodological experts, and they were informed by a review of relevant literature. Topic areas included:

- Cancer prevention (tobacco, unhealthy food and sugary drinks, alcohol, ultraviolet radiation, human papillomavirus [HPV] vaccination)
- Early detection (screening)

- Treatment and supportive care
- Lobbying and political influence

Validated instruments were used where available, and all measures were self-reported. The full survey instrument is provided in Appendix A of the current paper. For each brief report, full question wording and the abbreviated versions used in tables are provided in the corresponding Appendix A of the respective papers. Appendix B for each paper contains supplementary tables.

Socio-demographic variables included age, gender, ethnicity, region, household income, parental status (including children's age groups), personal or close-other experience of cancer, voting intentions and political leaning. Participants were able to skip any question by selecting *do not want to answer* and withdraw at any time. Derived variables included both total response and prioritised ethnicity[5] (in order of Māori; Pacific; Asian; Middle Eastern, Latin American and African [MELAA]; Other; and European), age groups (18–20, 21–29, 30–39, 40–49, 50–64, 65+), income (using quintiles of household equivalised income)[7] and children (any children aged under 18). We collected information on voting intention to enable analyses and reporting of findings across political affiliations.

Māori consultation

Māori consultation was undertaken in accordance with institutional procedures and principles consistent with Te Tiriti o Waitangi.

Data analysis

Statistical analysis was performed in Stata version 19.5,[8] accommodating the survey design through weights as explained below. All descriptive statistics for socio-demographic variables are presented as actual frequencies, with both unweighted-sample and census-weighted percentages. Design and poststratification weighting was applied to align the achieved sample with the Aotearoa New Zealand resident population by age, gender and Māori ethnicity using 2023 Census data from Stats NZ Tatauranga Aotearoa.[4] Weights were calculated based on age-gender-ethnicity strata as described below, with strata definitions adapted where sample sizes were small. In those cases, broader age strata were used to ensure stable weight estimates and avoid undue influence of extreme weights, consistent with recommended practice in survey weighting.

For non-Māori men and women, 5-year age groups were used from 18–19 years to 80+ years; for Māori men and women, 5-year age groups were used from 18–19 years to 65+ years; and for participants identifying as non-binary, broader age categories (18–24, 25–49 and ≥50 years) were used with Māori and non-Māori combined due to smaller counts.

Results were examined overall and by key demographic sub-groups (gender, age group, prioritised ethnicity and voting intention).

Reporting

Results presented in this paper describe the characteristics of the study sample prior to the weighting. Seven topic-specific reports then present findings across policy-specific areas, including tobacco, alcohol, unhealthy food and sugary drinks, ultraviolet radiation, lobbying and industry interference, vaccination and screening, and treatment and care, interpreted in relation to the Aotearoa New Zealand policy and practice context. Tables reporting weighted responses by age group, gender, prioritised ethnicity[5] and political affiliation are presented in supplementary tables in Appendix B of each paper.

Ethical considerations

Ethical approval was received from the University of Otago Human Ethics Committee (25/1184). All participants provided electronic informed consent before starting the survey. Responses were anonymous, and no identifying information was asked in the survey. The research panel provider did not share any personally identifiable information with researchers. Demographic data used for analyses were collected directly within the survey. Participants were also provided with the research team's email address should they wish to request a copy of the results.

Sample characteristics

The target population for this study was adults aged ≥18 years living in Aotearoa New Zealand; however, as the sample was drawn from an opt-in online panel, the achieved sample represents individuals willing to participate in survey research. Weighted estimates are presented to approximate the demographic composition of the Aotearoa New Zealand population in terms of

selected variables.

The achieved sample included participants from all regions of Aotearoa New Zealand, across the adult age range and spanning the political spectrum, supporting the relevance of the findings for national policy discussions. Limited descriptive results are presented here to characterise the achieved sample prior to weighting; substantive findings are reported in the accompanying brief reports.

In total 1,635 New Zealanders participated in the survey, although one indicated that they were not eligible to vote in an election and without further explanation. A description of unweighted participant characteristics is provided in Table 1. Participants were broadly distributed across adult age groups, with the largest proportions aged 25–34 (n=288; unweighted 17.6%) and 35–44 (287; 17.6%), and fewer respondents in the oldest age groups, including those aged 75 years and over (134; 8.2%). Slightly more participants identified as female (856; 52.4%) than male (775; 47.4%), with a small number identifying as another gender (4; 0.2%). Most respondents identified as European (1,036; 63.4%), with Māori (385; 23.5%) and Pacific peoples (368; 22.5%) also well represented using total response ethnicity. When prioritised ethnicity was used, European (752; 46.0%), Māori (385; 23.5%) and Pacific peoples (316; 19.3%) remained the largest groups. Over half of respondents lived in cities (927; 57.0%), with a further 31.3% residing in towns (509) and 11.6% in rural areas (189). The most common region of residence was Auckland (625; 38.2%).

Participants (n=1,634 due to the person indicating that they were not eligible to vote) reported voting intentions across a range of political parties, including Labour (685; unweighted 41.9%), National (317; 19.4%), the Green Party (143; 8.8%), NZ First (143; 8.8%), ACT (64; 3.9%), Te Pāti Māori (74; 4.5%), Opportunity (13; 0.8%) and other parties (4; 0.2%), with some respondents reporting that they were unsure, did not know who they would vote for, or were not intending to vote (191; 11.7%). Political views across the left to right spectrum were also reported, with responses spanning all categories.

Just over half of participants were in paid employment, either full-time (709; unweighted 44.1%) or part-time/casual (263; 16.4%), while 35.4% (570) reported not currently working or studying, and 4.1% (66) were engaged in study or training. One-third of respondents reported having at least one child under 18 years of age (551; 33.7%).

A majority of respondents reported that they or someone close to them had been diagnosed with cancer (1,192; unweighted 72.9%).

Strengths and limitations of the methodology

This study has several methodological strengths. It uses a large national sample and applies quota sampling and weighting to align the achieved sample with key population benchmarks for age, gender and Māori ethnicity based on the 2023 New Zealand Census. The survey instrument was developed in consultation with subject matter experts and the Cancer Society of New Zealand, informed by a review of relevant literature, and incorporated validated measures where available.

Oversampling of Māori and Pacific peoples was undertaken to enable ethnicity-specific analyses with sufficient precision, consistent with equity-focussed research priorities in Aotearoa New Zealand. While greater precision and equal explanatory power for Māori and Pacific population estimates would have been desirable, the achieved sample sizes were sufficient to support meaningful ethnicity-specific descriptive analyses while maintaining adequate precision for overall population estimates.

When calculating weights to address the risk of non-representativeness in both the panel's sampling frame and those responding to invitations to participate in our survey, we took a reproducible and transparent approach. We based our weights on Māori and non-Māori ethnicity alongside gender and age group, rather than using all six of the Level 1 ethnicity groups in Stats NZ Tatauranga Aotearoa's classification along with other respondent characteristics. The weighted characteristics of our sample are shown in Table 1 and show consistency with 2023 Census data[4] for those aged 18+ in terms of age and gender, but suggest some imbalances, including in terms of some ethnicities, geography and voting intentions (with the last of these differing from concurrent political polls).[9,10] Our results were planned to be stratified by ethnicity and voting intentions, as well as by age and gender, and, as shown in the accompanying brief reports, levels of support for policies remained broadly consistent when this was done, increasing our confidence that the choice of weighting approach is unlikely to affect our substantive conclusions.

Data collection was conducted using a structured,

Table 1: Characteristics of study participants.

Characteristic	Total (N=1,635)	
	n unweighted (%)	weighted (%)
Age bands (years)		
18–24	217 (13.3)	(11.3)
25–29	128 (7.8)	(8.6)
30–34	160 (9.8)	(9.8)
35–39	151 (9.2)	(8.9)
40–44	136 (8.3)	(8.2)
45–49	131 (8.0)	(7.8)
50–54	122 (7.5)	(8.4)
55–59	126 (7.7)	(7.9)
60–64	131 (8.0)	(7.7)
65–69	93 (5.7)	(6.6)
70–74	106 (6.5)	(5.5)
75–79	74 (4.5)	(4.4)
≥80	60 (3.7)	(5.0)
Gender		
Male/tāne	775 (47.4)	(48.7)
Female/wahine	856 (52.4)	(50.9)
Another gender/he ira kē anō	4 (0.2)	(0.4)
Prioritised ethnicity		
European	752 (46.0)	(50.9)
Māori	385 (23.5)	(15.0)
Pacific	316 (19.3)	(21.9)
Asian	154 (9.4)	(10.5)
MELAA	13 (0.8)	(0.9)
Other	15 (0.9)	(0.8)
Region of residence		
Auckland	625 (38.2)	(40.4)
Bay of Plenty	97 (5.9)	(5.3)
Canterbury	198 (12.1)	(11.8)
Gisborne	13 (0.8)	(0.4)
Hawke's Bay	56 (3.4)	(3.3)
Manawatū–Whanganui	75 (4.6)	(4.3)

Table 1 (continued): Characteristics of study participants.

Characteristic	Total (N=1,635)	
	n unweighted (%)	weighted (%)
Marlborough	12 (0.7)	(0.6)
Nelson	12 (0.7)	(0.7)
Northland	53 (3.2)	(2.9)
Otago	72 (4.4)	(4.1)
Southland	24 (1.5)	(1.4)
Taranaki	38 (2.3)	(2.1)
Tasman	14 (0.9)	(0.9)
Waikato	154 (9.4)	(9.7)
Wellington	181 (11.1)	(11.5)
West Coast	10 (0.6)	(0.7)
Rurality of residence		
City	927 (57.0)	(59.0)
Town	509 (31.3)	(30.4)
Rural	189 (11.6)	(10.5)
Employment status		
Full-time	709 (44.1)	(45.2)
Part-time/casual	263 (16.4)	(16.3)
Studying/training	66 (4.1)	(4.0)
Not working/studying	570 (35.4)	(34.5)
Political party vote (if election was held tomorrow)		
ACT	64 (3.9)	(4.2)
Green	143 (8.8)	(8.7)
Labour	685 (41.9)	(40.6)
National	317 (19.4)	(21.0)
NZ First	143 (8.8)	(9.8)
Te Pāti Māori	74 (4.5)	(3.2)
Opportunity	13 (0.8)	(0.7)
Other	4 (0.2)	(0.3)
Do not know	191 (11.7)	(11.5)
Political leaning (self-reported)		
Extreme left	58 (3.5)	(3.8)

Table 1 (continued): Characteristics of study participants.

Characteristic	Total (N=1,635)	
	n unweighted (%)	weighted (%)
Left	262 (16.0)	(14.9)
Slightly left	376 (23.0)	(23.3)
Slightly right	491 (30.0)	(30.7)
Right	229 (14.0)	(14.7)
Extreme right	39 (2.4)	(2.1)
Prefer not to answer	180 (11.0)	(10.5)
Self or someone close diagnosed with cancer		
Yes	1,192 (72.9)	(71.8)
No	412 (25.2)	(26.3)
Prefer not to answer	31 (1.9)	(1.9)

MELAA = Middle Eastern, Latin American and African.

self-administered online survey with testing and refinement prior to full launch to support clarity and survey flow.

Self-reported voting intentions and political views showed considerable diversity across the sample, including uncertainty about voting intentions. As with other sensitive self-reported measures collected via non-probability online panels, these data are presented descriptively and interpreted cautiously.[11]

The study has some general limitations across all domains. Recruitment via an existing online panel may introduce both selection and participation bias, as the sampling frame is limited to individuals with internet access and who are willing to engage in panel-based research, and our sample is limited to those who agreed to participate with this particular survey. The survey was conducted in English only, which may have limited participation and response quality among some communities, including Pacific people. Although weighting was used to align the sample with population benchmarks in terms of age, gender and Māori ethnicity, residual differences may remain within age categories, and these weights cannot achieve representation in terms of other characteristics. In particular, we based weights on Māori and non-Māori ethnicity (alongside genders and age groups) rather than using all six of the Level 1 ethnicity groups in Stats NZ Tatauranga Aotearoa's classification. Another limitation is that we had too few in some groups, including but not limited to non-binary/other gender participants and those of MELAA ethnicity, to be able to discuss their support for policies with confidence. Future research should investigate these views, which may require purposeful sampling. Furthermore, although we do not provide margins of error for sub-group estimates, due to the smaller numbers we would expect these to be larger than 2.9%.

The survey did not include measures of individual health-related behaviours and characteristics such as smoking or alcohol use; while these may act as mediators, effect modifiers or confounders in some contexts, the primary aim was to estimate overall population-level views rather than examine differences between sub-groups.

Finally, the use of an online panel precluded calculation of response rates overall and by key sub-groups, limiting the ability to assess non-response bias. All data were self-reported and therefore subject to reporting bias, particularly for more sensitive questions such as voting intention. This is a descriptive analysis, and we have avoided making formal comparisons between groups.

Conclusion

The study draws on a large national sample recruited through an online panel, with quota sampling and targeted recruitment to ensure representation of Māori and Pacific people, followed by weighting to align with population benchmarks. These approaches support the generation of population-level insights across a wide range of policy-relevant domains.

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Public support for cancer prevention, screening, treatment and care policies in Aotearoa New Zealand: a synthesis of evidence from a national survey

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ABSTRACT

AIM: We aimed to synthesise evidence on public support for cancer prevention, screening, treatment and care policies across the cancer continuum in Aotearoa New Zealand, and to consider implications for policy and governance.

METHODS: This viewpoint article draws together findings from a co-ordinated programme of national survey research comprising one shared methods paper and seven topic-specific reports examining public support for population-level prevention policies and cancer health services.

RESULTS: Across all topic areas, public support for the evidence-based cancer-related policies presented was consistently high. Strong majority support was evident for prevention, vaccination, screening, treatment and care, with broadly consistent patterns across political parties in many cases. Support was strong for population-level prevention measures targeting tobacco and vaping, unhealthy food and sugary drinks, alcohol, ultraviolet radiation exposure and vaccine-preventable infection. There was also substantial public endorsement of restrictions on industry lobbying and commercial influence over health policymaking. Strong support was observed for timely diagnosis, accessible treatment and sustainable health system funding, including a willingness to contribute through taxation when revenues are transparently earmarked.

CONCLUSION: These findings demonstrate a clear public mandate for evidence-based cancer policy across cancer prevention, screening, treatment and care in Aotearoa New Zealand. Barriers to action appear political rather than societal, underscoring the need for decisive political leadership consistent with Te Tiriti o Waitangi and public expectations.

Cancer policy in Aotearoa New Zealand is often characterised as politically challenging and is frequently justified by assumptions that the public may not support more ambitious prevention or health system reform. But are these assumptions valid? Is there truly major disagreement across political divides on cancer prevention, screening, treatment and care? Or is a broad public consensus being overlooked in policy decision making? These questions matter because failure to implement effective cancer policies carries substantial social, health, equity and economic costs, including avoidable morbidity, premature mortality and increasing pressure on the health system.

This viewpoint article addresses this gap by synthesising findings from a co-ordinated programme of national survey research (hereafter "the survey"), providing what we consider to be the first cross-cutting investigation of public support for key public health and health service interventions across the cancer continuum in Aotearoa New Zealand. The body of work being discussed comprises a shared methods paper[1] and seven topic-specific papers.[2–8]

Aotearoa New Zealand is facing growing challenges in cancer control as the population increases and ages, which is expected to drive a substantial rise in cancer cases and place significant pressure on the health system. At the same time, persistent inequities remain, with Māori, Pacific people and those living in deprived areas experiencing higher rates of cancer incidence, later diagnosis and poorer survival outcomes. These inequities (some of which are in conflict with Te Tiriti o Waitangi obligations) are compounded by barriers to access, differences in exposure to risk factors and workforce and system constraints. Together, an ageing population and entrenched inequities mean the demand for

timely, equitable cancer prevention, diagnosis and treatment will continue to intensify in the coming decades.[9] There is strong public support for policies that improve access to services and reduce avoidable barriers, including among Māori. This alignment between public values and equity-focussed cancer policy is consistent with, but does not replace, the Crown's responsibilities under Te Tiriti o Waitangi to ensure that cancer prevention and care reforms deliver tangible improvements in Māori health outcomes.

The findings across the seven papers are presented in two broad sections here. The first focusses on policies to reduce cancer risk, including measures addressing tobacco and alcohol use, ultraviolet radiation exposure, unhealthy food and beverage environments and human papillomavirus (HPV) vaccination. It also considers public views on industry influence and lobbying of government decision makers relevant to the implementation of these prevention policies. The second examines policies related to screening, diagnosis, treatment and ongoing care.

Ethical approval

Ethical approval was granted by the University of Otago Human Ethics Committee (25/1184).

Cancer prevention

As 30–50% of cancers can be prevented, prevention is fundamental to reducing the population burden of cancer.[10] Failure to invest in effective cancer prevention results in avoidable illness, premature mortality, lost productivity and increasing pressure on an already stretched health system, with significant social and economic consequences.[11] Policies that reduce the appeal, availability and affordability of unhealthy products, increase affordability and access to healthier options and create environments that support healthy behaviours offer substantial public health and equity benefits.[12–14] There is consistent evidence that these population-level measures, particularly fiscal and regulatory interventions such as taxes on sugary drinks or restrictions on tobacco marketing, are more effective and more equitable than interventions focussed primarily on individual behaviour change.[12–14]

Examples of restricting the appeal, availability and affordability of unhealthy products and improving affordability and access to healthier options include government actions to reduce the cost of healthy food and increase the provision of protective infrastructure, such as shade, to reduce ultraviolet radiation exposure. Together, such practical measures form a core component of comprehensive prevention strategies, particularly when implemented alongside complementary regulatory and fiscal policies.

Substantial majority support was observed for most population-level prevention policies presented. This included high support for key policies such as reducing the cost of healthy food (around 89% overall support), excluding the junk food and sugary drinks industry from policy development (around 79%) and doing more to keep people safe from alcohol-related harm (around 71% agreement). Importantly, majority support for these policies was broadly evident across major political party groups, including those intending to vote for parties that have not consistently supported such measures. These findings refute arguments that population-level prevention measures do not have public support. Around 80% also supported efforts to increase HPV vaccination rates.

In many cases, levels of support were inconsistent with the policy positions or actions of the parties that Aotearoa New Zealanders indicated they would vote for. Notably, the three world-leading tobacco control measures repealed by the current Government remained strongly supported, with support levels of approximately 77–84%, including majority support among supporters of the current coalition parties. More members of the public disagreed with the repeal of these policies than agreed across all voting intention groups, further highlighting the disconnect between public preferences and recent policy decisions.

One important subset of population-level prevention policies relates to the regulation of marketing, which influences purchasing behaviour and contributes to harmful consumption patterns, particularly among children and young people.[15] There was high public support for policies that restrict or prohibit the marketing of unhealthy commodities (such as unhealthy food or drinks), indicating strong social acceptability for minimising or eliminating exposure to such marketing. Rigorous restrictions are already in place for tobacco in Aotearoa New Zealand, so there is a strong precedent.

In addition to regulatory approaches, fiscal policies influence affordability by either increasing the cost of unhealthy commodities or reducing

the cost of healthy options, and they are associated with changes in purchasing behaviour and consumption.[16] These measures were widely seen in this survey as appropriate mechanisms for supporting prevention, including sugar-sweetened beverage taxes and increased alcohol taxes. While support for fiscal measures was generally lower than for other interventions, it still reflected majority endorsement.

Beyond specific regulatory and fiscal levers, the public also expressed substantial support for addressing commercial influences on public health policymaking. The survey indicated substantial public support for introducing restrictions on industry lobbying and for excluding the alcohol and unhealthy food industries from public health policymaking. This support extended to specific, concrete policy measures, including requiring politicians and senior staff to observe a stand-down period before taking up lobbying roles for the junk food, alcohol and sugary drinks industries, and mandating clear rules to ensure lobbyists act fairly and responsibly.

Across all seven papers, consistent patterns emerged, including high public support across cancer policy and practice domains and little evidence of polarisation by voting intention in most policy areas. Taken together, these findings indicate that population-level prevention policies are both publicly acceptable and politically feasible, removing a frequently cited constraint on preventive policy action. However, as previously observed in tobacco control, industry interference can delay, weaken or even reverse effective regulation even in the presence of strong public support, underscoring the importance of clear and enforceable protections.[17]

Cancer screening, treatment and care

Screening, timely diagnosis and effective access to treatment and care offer substantial opportunities to improve cancer outcomes in Aotearoa New Zealand. International comparisons indicate that there is considerable scope to improve cancer outcomes in Aotearoa New Zealand through earlier diagnosis, more timely treatment and greater system-level investment.[18]

Public support for policies across cancer early detection, treatment and care was consistently high, exceeding 90% for every policy examined in this domain, indicating broad endorsement of publicly funded, accessible and timely cancer services. Importantly, this high level of support was observed across all major political party groups, with limited variation by voting intention. Strong support was evident for timely access to diagnostic services and treatment pathways designed to minimise avoidable delays. Support for increased health funding remained consistently high across the political spectrum.

Investment in health services emerged as a shared public priority, alongside widespread concern about the long-term sustainability of the health system, particularly the health workforce. As with prevention policies, these findings indicate that support for core components of cancer control, including screening, diagnosis and treatment, is not politically polarised by voting intention and reflects a broad and consistent pattern of public support. Together, these findings suggest that the principal barrier to strengthening cancer services in Aotearoa New Zealand is unlikely to be public acceptability, but rather the translation of this consensus into political action. Willingness to contribute financially to the public health system through taxation was strong, with around two-thirds of people prepared to pay more tax. Support was highest when revenue was earmarked for health services. These findings suggest that the public recognises that additional investment must be sourced and is broadly willing to support increased taxation to achieve this.

These findings indicate support not only for increased funding, but specifically for funding models that provide visibility, earmarking and confidence over how resources are raised and allocated. A levy-based approach, analogous to the Australian Medicare tax levy, provides one example for creating a dedicated funding stream for health services. Comparable arrangements operate in several European countries and function in practice as forms of collectively funded health insurance.[19]

Overall, these patterns indicate strong public endorsement of a cancer health system that prioritises early diagnosis, co-ordinated treatment and continuity of care. Support was evident for system-level approaches emphasising performance, fairness and responsiveness, including adequate resourcing of cancer services and access to supportive and palliative care.

While across this survey we have not explored every possible policy option, those examined are all supported by strong evidence, demonstrated effectiveness in other jurisdictions and endorsement from leading international agencies, including the

World Health Organization,[15] the Organisation for Economic Co-operation and Development[11] and the World Cancer Research Fund.[20]

Conclusion

This survey research demonstrates a clear public mandate for evidence-based cancer policy across cancer prevention, screening, treatment and care in Aotearoa New Zealand. A significant majority of Aotearoa New Zealanders are willing to contribute financially to the health system through earmarked taxation. However, Aotearoa New Zealanders also recognise that treatment-focussed responses are not enough and they widely support prevention. Substantial and often cross-party support for cancer prevention policies highlights the travesty of current inadequate action and the need to hold politicians to account when such policies are not fully, if at all, implemented. A potential barrier identified in this work is concern about industry interference in policymaking, with strong public support for restrictions on lobbying. Overall, barriers to action are political rather than societal, underscoring the need for decisive political leadership that is consistent with Te Tiriti o Waitangi and public expectations.

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R Edwards has received: consulting fees for contribution to an International Tobacco control project (from NIH grant); consulting fees from the CENIC Study (from NIH grant); occasional fees for external PhD marking; occasional honoraria for invited presentations at international scientific meetings; payment for deputy editor services to the Society of Research on Nicotine and Tobacco (SRNT; *Nicotine & Tobacco Research* journal); and travel costs for attendance at the SRNT Oceania meeting/NHMRC Research Centre meeting, Brisbane May 2024. RE is: a member of Preventive Health South Australia Council, 2026–current; a member of the Smokefree Expert Advisory Group, Health Coalition Aotearoa (2019–2024); a member of the National Tobacco Control Advocacy Service Advisory Group, Hapai Te Hauora Māori Public Health (2016–2024); a member of the New Zealand Cancer Society's National Scientific Advisory Committee (2020–2023); chair of the Public Health Communication Centre Expert Advisory Board (2021–2024); and board member/president elect (2024–2025) and president (2025–2026) of the SRNT – Oceania Branch.

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How can we value what is not measured: the need for better data on women's health and primary care

Fiona Imlach, Natalia Boven, Vanessa Selak

ABSTRACT

Decisions about healthcare funding and delivery in Aotearoa New Zealand, as well as the monitoring of health service performance and outcomes, are driven by readily available data, in particular from administrative health datasets. Most of these national health data collections are generated through the delivery of secondary health services. Further, apart from hospitalisation and mortality collections, these lack diagnostic coding, rendering the burden and cost of chronic health conditions predominantly managed in primary care largely invisible. Many of these types of health conditions disproportionately affect women, who, despite their longer life expectancy, spend 25% more time in poor health than men, according to international research on the women's health gap. This gap is driven by conditions occurring only in women (e.g., premenstrual syndrome, endometriosis, polyendocrine metabolic ovarian syndrome) or with higher burden in women (e.g., anxiety, depression, migraine). Addressing this gap could add US$1 trillion to the global economy. In Aotearoa New Zealand, major improvements in national health data collections are urgently needed to assess the cost of the women's health gap and the burden of chronic diseases that have high social and economic impact but are undetectable or difficult to survey in our existing administrative datasets. We illustrate these issues using the example of migraine disease, the most disabling neurological condition in Australasia that also affects at least twice as many women as men.

Routine or administrative datasets currently used in Aotearoa New Zealand fail to collect comprehensive information about health conditions that are predominantly managed in primary care settings. Such health conditions are therefore under-prioritised in health strategies, planning and funding and also disproportionately affect women. These conditions include those that only occur in women (e.g., endometriosis, menopause, premenstrual syndrome) and those that are more prevalent or carry a higher burden in women than in men (e.g., mood disorders, migraine). For both categories, lack of data, monitoring and research into these conditions perpetuates a cycle of neglect, in that being unable to accurately quantify the burden and cost of these diseases means they are under-prioritised for research and funding,[1] obscuring data and health gaps.

To illustrate the importance of obtaining better primary care data for women's health, we use the example of migraine disease, the most disabling neurological condition in Australasia[2] that affects at least twice as many women as men. In Aotearoa New Zealand, migraine affects a similar proportion of NZ European, Māori and Pacific people, but Māori are more likely to report recent symptoms and Māori and Pacific people are less likely to have a migraine diagnosis.[3] Globally, despite its high prevalence of around 15%, migraine is also acknowledged to be under-researched, under-diagnosed, under-treated and underfunded.[1,4] For example, analysis of health research funding from the United States of America National Institutes of Health that adjusted allocation of funds across diseases to be commensurate with disease burden found that diseases affecting women were disproportionately underfunded, with migraine (along with myalgic encephalomyelitis/chronic fatigue syndrome) the most severely underfunded in 2019.[1]

In this viewpoint we describe the women's health gap and the challenges to assessing the cost of this gap when using the secondary care–focussed national health data collections currently available in Aotearoa New Zealand. Conditions that are chronic, disabling but typically non-fatal, such as migraine, that are largely managed in primary care are not sufficiently visible in these data collections, leaving the burden and inequities in outcomes inadequately measured or unmeasured. While we acknowledge that such conditions likely also disproportionately impact people assigned female at birth who do not identify as

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women, we use the term "women" throughout to reinforce the gendered nature of these issues.

The impact of the women's health gap

On average, women live longer than men, but spend 25% more time in poor health, experiencing pain and disability.[5] The social impact of this health gap is loss of women's quality of life. The economic impact is the reduced ability of women to participate fully and productively in the workforce and to undertake unpaid labour, such as caregiving, volunteering and domestic work.

The World Economic Forum in 2024 estimated that addressing the women's health gap could "*potentially boost the global economy by* [US]*$1 trillion annually by 2040*."[5] They listed 10 women's health conditions that contributed to more than half of this economic impact. Number three on this list was migraine (behind premenstrual syndrome and depressive disorders)—number four if menopause was included.

If migraine in women could be addressed, this had the potential to contribute $80 billion to the global economy. What about the Aotearoa New Zealand economy? That is unknown.

Measuring the cost of illness

To estimate the cost of a disease to society we need a lot of high-quality data. We need to know how many people have the disease, by age, sex and ethnicity. We need to know what kind of healthcare people with the disease use (e.g., visiting general practitioners [GPs], emergency departments [EDs], hospitals, specialist [outpatient] appointments; medications both prescribed and over the counter; complementary therapies; supplements; diagnostic and monitoring tests) and how much these services cost. We need to know the impact of the disease on people's ability to work, whether it causes unemployment, underemployment, early retirement, time off work or time at work with poor performance. We need to cost this impact, to measure "lost productivity", and ideally even put a price on the pain and disability that people experience because of the disease.

Lots of countries have estimated the cost of migraine to their economy (e.g., Alberta, Canada estimated additional healthcare costs of migraine to be more than CA$1 billion in 2022;[6] Spain estimated the total cost, including lost productivity, to be between €10 million and €14 million in 2020;[7] the United Kingdom [UK] estimated migraine cost the public economy £12 billion in 2022[8]). This has not been done in Aotearoa New Zealand, although our scoping review[9] of international studies made recommendations on best practice and ways to reduce bias and avoid either overinflating or understating results. However, a major barrier to completing a costing study in Aotearoa New Zealand is lack of data. When we reviewed what would be needed, we found major deficiencies in the data on healthcare use and nothing substantive that could be used to estimate lost productivity.[10]

Limitations of health service data collections

One of the reasons for this lack of health data is that most cases of migraine are managed in primary care. This is also true for many of the conditions that significantly affect women (e.g., long COVID, premenstrual syndrome, endometriosis, mood disorders) and contribute to the women's health gap. Primary care data include health information collected at points of contact between patients and primary care services, including patient demographics, symptoms, test results, prescriptions and other treatments, referrals and diagnoses. However, primary care information systems are not set up to consistently and accurately record diagnostic information. In addition, primary care is privatised and there is no mechanism or incentive for data from individual private practices, or the primary health organisations (PHOs) that manage government funding for large groups of practices, to be appropriately collated and shared for monitoring and research. Health New Zealand – Te Whatu Ora is working with PHOs and general practices on the development of a national primary care dataset, but at this stage this is purely administrative, to count bookings and encounters, and will collect no clinical information.[11] In the UK, databases of primary care electronic health records cover most practices and are linked to other datasets (e.g., death records, hospitalisations, immunisation) and accessible to *bona fide* researchers.[12] This is possible in part because primary care services in the UK are publicly funded.

Aotearoa New Zealand keeps good records on hospitalisations, but conditions such as migraine do not usually lead to hospital admission (nor should they—a hospitalisation for migraine could rightly be seen as a failure of primary care,[13] otherwise known as an "ambulatory sensitive

hospitalisation"). Four of the five current health targets[14] are based on secondary care data (faster cancer treatment, shorter stays in EDs, shorter wait times for first specialist assessment, shorter wait times for elective [hospital] treatment), and the fifth is based on registry data (improved immunisation for tamariki). Many other indicators of health system performance included in the *Government Policy Statement on Health 2024–2027*[15] are based on registries, mortality data and hospitalisations. Aotearoa New Zealand has national registries for cancer incidence, cancer screening, diabetes and immunisations, but neither these nor the other datasets are useful for monitoring the women's health gap caused by non-fatal, high-disability health conditions.

Useful information on these conditions could be gained from EDs and specialist outpatient hospital clinics. Since 2021, all ED clinicians have been asked to report SNOMED codes on "presenting complaint" (what the patient is noted as attending the ED for, e.g., vomiting or headache), diagnosis (what the clinician who assessed the patient noted as the underlying disease or cause for the presentation, e.g., migraine) and any procedure, although this practice has not yet been fully implemented nationally. For outpatient clinics, we can see how many people attend but not what they attend for. In addition, these collections do not record specialist visits in the private sector, although around one-fifth of specialist medical workforce hours are spent in private practice.[16]

Similarly, national collections of laboratory and imaging tests may record the timing and completion of a test but not what the test was done for and what the result was. In some instances, it is not even possible to distinguish the type of test performed. Even if a disease has a definitive diagnostic test, these records can only identify people who were sent for and had a test done. However, in the case of migraine and many other conditions affecting women, the diagnosis rests on the pattern and experience of symptoms and there is no specific diagnostic test.

This creates a cycle of invisibility and neglect (Figure 1). There is no definitive imaging or blood test, which makes research more challenging and the impact of the disease harder to measure and easy to under-estimate. Lack of research means slow progress in understanding the pathogenesis and pathophysiology of the disease and the development of new treatments. Lack of knowledge about impact means less incentive to fund any new treatments or tests that do arise, when health services and research funding are allocated by apparent need. Lack of funding means that the impact of new treatments is hard to measure, as these are poorly accessible, and this will exacerbate inequities in outcomes, as access is dependent on the capacity of patients to self-fund. And because poorer and unequal outcomes are not captured in data and research that inform policy and planning, there is no incentive to improve or correct existing data collections. These issues may also reinforce existing inequities across groups by leading to the (mis)perception that groups with poorer service access, often Māori and Pacific people, have lower disease risk.

Limitations of medication data

One data source that can sometimes be used to identify and monitor health conditions in a population is use of medications. In Aotearoa New Zealand, the pharmaceutical collection is the main source of such data: a national data collection of all funded pharmaceuticals dispensed in the community. This data collection presents some limitations. If a medicine is prescribed but the prescription is not filled, this is not counted, and there are equity concerns about access to medications, with Māori more likely to face cost barriers to collecting a prescription (and seeing a GP).[17] If a prescription medicine is dispensed but it is not funded by Pharmac and instead paid for out-of-pocket by the patient, this is not counted. Medicines administered in hospital settings are not counted. While the New Zealand ePrescription Service now captures most prescribing and dispensing activity in real time and is used to populate the Medicines Data Repository (MDR), these data are not easily available. None of these collections capture medicines bought over the counter, such as non-steroidal anti-inflammatory drugs, which can be purchased from pharmacies, supermarkets and other stores.

Besides these limitations, none of these (potential) sources of pharmaceutical data collect information on the reason for the prescription nor can they identify people with health conditions for which there are no drug treatments. Using migraine as a case in point, when migraine attacks are frequent or severe, preventive medications can be prescribed. However, the only funded migraine preventives in Aotearoa New Zealand are medications developed for and used to treat other conditions, namely hypertension/heart disease,

epilepsy and mood disorders. For example, we can see from the pharmaceutical collection how many people are dispensed amitriptyline, a tricyclic antidepressant as well as a first-line migraine preventive medication, but not whether this was prescribed to treat migraine, depression, neuropathic pain, another condition or a combination of conditions. New migraine preventive medications are specific to migraine, so will not be used for any other condition, but as these are not funded, they will only appear in the New Zealand ePrescription Service or MDR but not the pharmaceutical collection, which is the main source of pharmaceutical information available to researchers.

Limitations of primary care data

Even if primary care data were widely available for research and evaluation in Aotearoa New Zealand, they may have limited value at a population level without significant investment into quality improvement, particularly in diagnostic coding. Hospitals employ trained clinical coders who scour hospital notes for diagnoses and procedures, the recording of which is used for planning and funding of services. EDs, outpatient services and primary care are funded differently and are not reliant on this level of coding, so do not have dedicated coders reviewing their consultations. Artificial intelligence–based approaches to support coding practices are being developed and tested but have not yet been implemented in Aotearoa New Zealand to our knowledge.

We have demonstrated the potential limitations of primary care data in a recent study[18] using an extract of electronic health records from 2014 from ProCare, the largest PHO in the Auckland Region, covering 170 general practices and around 820,000 patients. For this study, electronic health records from 374,071 adults were able to be extracted and these were searched for any mention of migraine, including within free-text entries. Only 3.8% of adults had migraine recorded (5.3% of women and 2.0% of men).

Globally, and from Aotearoa New Zealand survey data, the prevalence of migraine is around 14–15%.[19] The primary care records identified barely a quarter of the expected number of patients with migraine and even fewer of the expected number of Māori or Pacific people with migraine. Electronic recording of diagnoses may have improved in primary care since 2014 but the improvement would need to be substantial for these datasets to be anything close to a robust source of information about the burden and cost of migraine at a population level.

In other countries, administrative data have been used to identify people with migraine with reasonable accuracy,[20] but this depends on access to, and adequate diagnostic coding within, both primary and secondary care datasets.

Limitations of administrative data

Even high-quality administrative data have limitations. Again, using an illustrative example from our review of migraine data, relying on administrative data to identify people with migraine will only reveal those who seek healthcare for migraine, who are correctly diagnosed with migraine and who have this diagnosis recorded in their health record. This would miss a large proportion of people with migraine, because of the high rates of undiagnosed and untreated migraine in the community, and those who are missed will differ from those who are included. But we will not know about those who are missing and how they are different without a benchmark that includes all people with migraine, many of whom do not approach or receive a diagnosis from a health professional, despite significant levels of pain and disability. In Aotearoa New Zealand, according to 2023/2024 New Zealand Health Survey data, around half of those with recent migraine symptoms do not have a migraine diagnosis, but this proportion is higher in Māori and Pacific people.[3] This overall rate is consistent with large international population-based surveys that use questionnaires based on the International Classification of Headache Disorders criteria to identify people with migraine.[21,22] These surveys typically find high rates of migraine-related disability (58%)[21,23] that would merit medical treatment but only around 20–33% of these consult a health professional and receive an accurate diagnosis.[23–25] Reasons for under-diagnosis include stigma and barriers to healthcare, including cost and a fear of not being taken seriously.[24,26,27] Under-diagnosis can be more common in minoritised groups (e.g., Black American, Indigenous people), with contributing factors such as discrimination and lack of trust in health services.[28]

The role of survey data

For chronic diseases that do not show up in hospitalisation data or other national health data collections because people are not seeking

healthcare or receiving a correct diagnosis, survey data can plug the gap and add information not collected from administrative sources. Surveys, such as the New Zealand Health Survey, that are of a reasonable size, are population-based and representative are essential to assess differences by ethnicity and other characteristics. Monitoring of Māori health and addressing causes for inequities in health outcomes is an obligation under Te Tiriti o Waitangi, which includes appropriate and robust data collection on health conditions that affect Māori.

Questions about migraine were included in the 2023/2024 New Zealand Health Survey, a high-quality, population-based survey that has provided valuable estimates of migraine prevalence by age, gender, ethnicity and disability status.[3] The survey not only asked about migraine diagnosed by a doctor but also about recent experiences of migraine symptoms, so as to identify people likely to have undiagnosed migraine disease.

Some other chronic conditions with poor visibility in secondary care data are also asked about in the New Zealand Health Survey 2024/2025, including long COVID, chronic pain, mental health conditions and arthritis. For conditions with a lower prevalence (e.g., Ehlers-Danlos syndrome), affecting primarily one part of the population (e.g., dementia in older people) or if diagnosis is relatively complex (e.g., endometriosis, polyendocrine metabolic ovarian syndrome), this type of survey may not be the best way to collect information about prevalence and impact. For low-prevalence conditions, a very large sample size would be needed to generate robust estimates and measure impacts on Māori. For conditions affecting a slice of the population, more targeted surveys may be more appropriate, with different sampling methodology. Diagnostically complex conditions are difficult to include in broad population surveys, where brevity and timing are prioritised to maximise participant engagement. These examples all reinforce the importance of robust and accessible primary care data.

However, reliable estimates of prevalence based on survey (and administrative) data are reliant on reliable denominators of population estimates and projections from the census. The Government is currently considering replacing a full field enumeration survey supplemented with administrative data with an administrative data–first approach supplemented by a survey of 3% of the population. Marrying administrative data with its known limitations to a survey, which will also be subject to bias, is unlikely to provide a comprehensive and reliable picture of the Aotearoa New Zealand population, particularly for small groups. It could serve to entrench the biases already present in administrative data and make gaps in the data impossible to discover without a robust baseline.

International data

The Global Burden of Disease (GBD) study provided a source for migraine prevalence in Aotearoa New Zealand when few other estimates existed.[29] GBD data have been the backbone of global research highlighting the high disability burden of migraine and headache disorders and call for more effective treatment and prevention.[30–32] However, the only local data source for migraine estimates for Aotearoa New Zealand is a publication from the Dunedin Multidisciplinary Health and Development Study, reporting on migraine prevalence in a birth cohort at age 26.[33] This means that results for Aotearoa New Zealand, which are routinely presented by gender and age (from 0 to 70+ years) are largely derived from modelling based on international datasets.[10] A one-off publication of estimates of disease burden for Māori using GBD 2021 data[34] would have had minimal local data to draw on for migraine, and no estimates have been developed for any other ethnic groups in Aotearoa New Zealand.

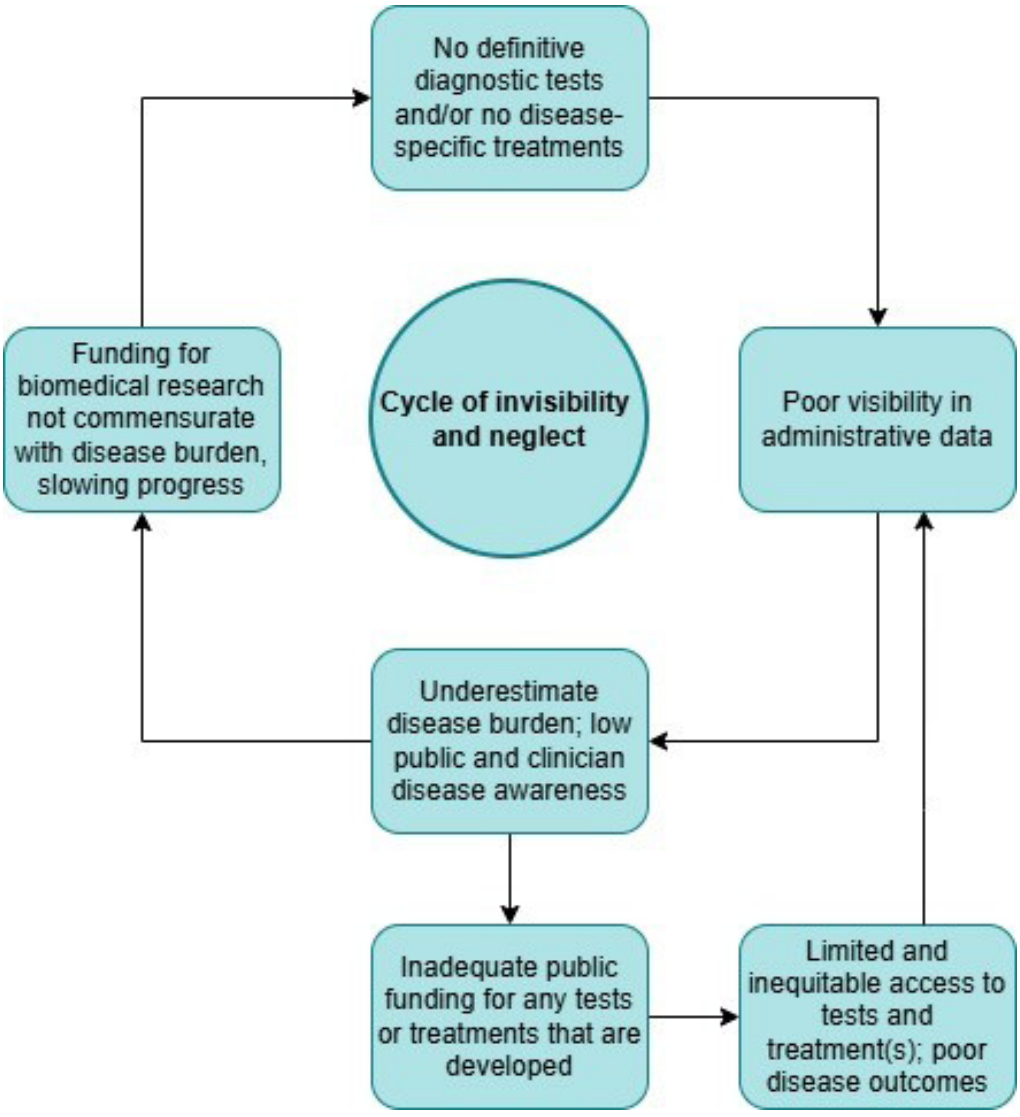
Conclusions

Decisions about healthcare funding and delivery in Aotearoa New Zealand and monitoring of health outcomes are largely driven by data from national collections on secondary care. These datasets do not provide adequate data on many chronic conditions that predominantly affect women and cause a substantial social and economic burden from lost health and productivity. For illustrative purposes, we have focussed on migraine and the "women's health gap" but there are many people who do not identify with binary genders who also experience migraine. Accurate recording of affirmed gender is needed to uncover the burden of disease in transgender and non-binary people. The example of migraine is also intended to highlight the broader issues around recognition, monitoring and treatment of these often-invisible health conditions. Other conditions with an outsized impact on women, such as endometriosis, perimenopause/menopause and long COVID, confront the same

data limitations.

Without robust and comprehensive data on healthcare use and productivity, we can only guess at the actual cost of these chronic conditions and the existence of unequal impact across minoritised populations. This restricts our ability to plan and make a case for improved health services and access to treatment and support. Improved diagnostic information in existing collections is needed as well as access to high-quality, integrated primary care data. National surveys are invaluable but insufficient for measuring the prevalence and impact of all health conditions that are predominantly managed in primary care, across all population groups. The potential of primary care research has been demonstrated through a regional research database in Otago/Southland[35] but requires dedicated funding and commitment to infrastructure development and ethical and Māori data governance principles.[36] Improved diagnostic coding is needed for primary care and other datasets, such as the national collections of outpatient and ED visits, to be useful for monitoring the women's health gap. Careful consideration must be given to the proposed replacement of Aotearoa New Zealand's census, as this risks undermining the utility of existing and future surveys for collecting this type of information and jettisoning the ability of services, researchers, policymakers and communities to assess and monitor Māori health outcomes.

Figure 1: Cycle of invisibility and neglect of chronic conditions that contribute to the women's health gap.



COMPETING INTERESTS
None.

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Metastatic neuroendocrine carcinoma mimicking a breast abscess: a case report

Ally Yu, Yijiao Wang, Eva Juhasz

Large cell neuroendocrine carcinoma (LCNEC) is a rare and exceedingly aggressive high-grade cancer. This is a subtype of neuroendocrine carcinoma, which commonly originates in the lung but may arise in other organs, including the gastrointestinal tract and pancreas.[1] This is heavily associated with smoking and typically affects males with a median age of around 65 years.[2]

Common sites of metastasis include the liver, bone, brain and adrenal glands.[3] Metastatic involvement, from any primary, of the breast is rare.[4] It has been estimated that only 0.005–0.02% of breast malignancies represent metastases from neuroendocrine tumours.[5] Reported cases have typically presented as breast masses or nodules.[5–7]

This case illustrates an unusual presentation of LCNEC, initially presenting as breast metastasis mimicking an abscess.

Case presentation

A 38-year-old previously well, non-lactational, non-smoking female patient presented with a painful 5×5cm erythematous lump in the lower outer quadrant of the left breast. This was indurated, firm and mobile. She was otherwise clinically well, with no constitutional symptoms. An abscess was suspected by the emergency department team, and she was discharged with antibiotics.

One week later, she re-presented due to persistent symptoms and failure to improve on antibiotics. She was referred to general surgery. The abscess was surgically treated, and cavity biopsies were taken due to the intraoperative finding of a hard lesion with central necrosis, suspicious for malignancy.

Histological examination demonstrated features consistent with metastatic LCNEC of unknown primary origin. Tumour markers were markedly elevated, including chromogranin A, cancer antigen (CA) 15-3, CA 19-9, CA 125 and carcinoembryonic antigen.

During subsequent assessment, the patient was admitted with significant back pain. Computed tomography of the chest, abdomen and pelvis demonstrated an extensive malignant spread, including a large left upper lobe mass, with nodal, skeletal, pelvic and possible hepatic metastases; however, the primary tumour was not identified (Figure 1). Magnetic resonance imaging (MRI) confirmed lumbar spinal involvement (Figure 2).

Figure 1: Computed tomography demonstrating widespread metastatic disease.



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Figure 2: Magnetic resonance imaging demonstrating spinal metastases.



This case was discussed at the neuroendocrine tumour multidisciplinary meeting, favouring the diagnosis of stage IVB LCNEC, most likely of lung origin, with widespread metastases.

Discussion

Breast abscess is a common benign condition that is frequently managed by general surgeons.[8] To our knowledge, presentation of neuroendocrine carcinoma as a breast abscess has not previously been reported. Awareness of this presentation is important, as metastases from neuroendocrine tumours to the breast may be more common than previously recognised.[6]

Management guidelines for LCNEC remain limited due to the rarity of the disease. Surgical resection is recommended for early-stage disease when feasible, while advanced disease is typically treated with platinum-based chemotherapy similar to that used for small cell lung cancer. The prognosis remains poor.[9]

Another notable feature of this case was the patient's clinical profile. LCNEC is strongly associated with tobacco exposure, and its occurrence in a young lifelong non-smoker, as observed in this case, is uncommon.

Interestingly, molecular testing demonstrated an anaplastic lymphoma kinase rearrangement, a finding most commonly associated with lung adenocarcinoma and rarely reported in LCNEC.[10] In this case, palliative radiotherapy for symptomatic spinal metastases was completed, and the patient was initially waitlisted to commence systemic chemotherapy with carboplatin and paclitaxel. However, after identifying this molecular alteration, targeted therapy with alectinib was commenced.

This case highlights an unusual presentation of metastatic LCNEC. It emphasises the importance of considering malignancy in the differential diagnosis of an apparently benign breast infection, and the necessity of high clinical suspicion in abscesses that are refractory to treatment.

COMPETING INTERESTS
Nil.

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The Medical Treatment of Simple and Exophthalmic Goitre.

NZMJ, 1926

A paper read before the Annual Conference by

F. V. Bevan-Brown, M.D., M.R.C.P.

I propose in this paper to take exophthalmic goitre first, and to discuss some points in its pathogenesis before passing on to its treatment. The latter can hardly be dealt with in a rational manner unless the essential features of the underlying causes of the disease, as far as they are known, are at the same time borne in mind. Grave's disease is not primarily a disease of the thyroid gland, but a condition in which there is present a persistent stimulation, varying in intensity, of the sympathetic nervous system, including the suprarenals. A secondary effect of the resultant activity is stimulation of certain other glands of the body, including the thyroid gland. Hypertrophy and hyperplasia of the latter occurs, its vesicles actively secrete and eventually become exhausted and emptied of their colloid, and the iodine content of the gland, as shown by Marine and Lanhart, falls very low. Direct and indirect evidence is plentiful to show that the essential feature of Grave's disease is a hyperactivity of the sympathetic system. Cannon showed, by uniting the proximal end of one phrenic nerve to the sympathetic trunk of that side that certain of the cardinal symptoms, including exophthalmos, could be reproduced. Marine found damage to the suprarenal cortex of rabbits, produced experimentally, caused a rise in the basal metabolic rate (increased heat production), loss of iodine content of the thyroid gland, and general symptoms of loss of weight, exhaustion and myocardial changes.

The primary cause of Grave's disease is the stimulus that over-activates the sympathetic nervous system. One recogonised form of stimulus is a psychic one—sudden fright or shock, prolonged anxiety, prolonged fatigue. Crile's work in this connection will be recalled. A second form of stimulus that is not generally accepted is the toxic. This is so threadbare and unsatisfactory an explanation of many obscure diseases that one instinctively feels sceptical about it when it is brought forward. There is, however, in Grave's disease an outstanding indication of the presence in the organism of a persistent and abnormal chemical stimulus, and in practical support of this idea one has the definite fact that cases do get well that receive no other treatment beyond the elimination of a toxic focus. It is my personal belief that in the great majority of cases this toxic focus is the alimentary tract. Failure to recognise this fact and the difficulty one has of correcting the condition are two reasons why the view of toxic absorption from the bowel as one of the underlying causes of Grave's disease is not more generally accepted. These two sources of stimuli, the psychic and the toxic, occur so commonly that one would expect Grave's disease to have a much higher incidence than it does, and it is clear that other and unknown factors are present in its development.

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