Smoking and Vaping

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The evidence base for harm caused by smoking is extensive. Citing this evidence, the previous Government committed to a variety of policy settings towards a Smokefree Aotearoa 2025 with Smokefree legislation (Smokefree and vaping legislation | Ministry of Health NZ).

Under the Coalition Agreement between the National Party and ACT, the new Government is repealing three aspects of this legislation, the retail reduction scheme, denicotinisation, and the smokefree generation measures.[1] The announcement that this was their intention attracted significant national and international expert commentary, some of which is linked below:

- The Smokefree legislation is evidence-based, removing it is not | PHCC
- Young New Zealanders want a tobacco-free future - new research | PHCC
- Open letter to the incoming government - NZ Herald
- New Zealand's new government says it will repeal groundbreaking anti-smoking law | The BMJ

Part of the rationale for not needing these three aspects of the proposed legislation is that smoking rates in New Zealand have been declining without the need for them and vaping has played a key role.[2] Critics of the repealing of the Act cite the need for the proposed measures to remove persisting inequities between smoking prevalence among Māori and non- Māori.[3] A modelling study, published in the British Medical Journal in 2023, indicated that the three measures were forecast to achieve less than 5% smoking prevalence three years after implementation for non-Māori and 6 years after implementation for Māori.[4] Denicotinisation was estimated to achieve the majority of the health gains.

The evidence base around the benefits and harms of vaping is evolving. We summarise select literature on this evidence base below.

Vaping

A vape or e-cigarette is a handheld device that uses battery power to heat a liquid, creating a vapour for inhalation. The vapour may contain nicotine, the addictive compound found in conventional tobacco cigarettes. Vaping is less harmful than smoking – a 2018 report commissioned by Public Health England[5] stated that nicotine vaping products are at least 95% less harmful than cigarettes, although estimates vary. For example, one study[6] estimated that vaping may be two-thirds less harmful than smoking, while in 2019 the World Health Organisation concluded[7] that aerosols from nicotine-based vapes are "likely to be less toxic than cigarettes but there is insufficient evidence to quantify the precise level of risk associated with them."

At least 80 chemical compounds have been detected in e-cigarette vapour. These compounds are derived from the e-liquid (which is comprised primarily of glycerol and propylene glycol, and can also contain nicotine and flavouring agents). Metals have also been found in e-liquid and vapour,[8] transferred from the heating coil in the vape itself. We don't know how all the constituents of e-cigarette vapour affect human health when inhaled, but several studies have found an association between vaping and respiratory symptoms[9] including asthma, wheezing, chronic cough, phlegm and

bronchitis. Because vaping is relatively new, we also don't fully understand its long-term health impacts, including the impacts of second-hand exposure. And vapes that contain nicotine can be addictive, potentially contributing to dependence.

In Aotearoa New Zealand, vaping is regulated under the Smokefree Environments and Regulated Products Act 1990,[10] which was amended in 2020 to cover vaping,[11] with new regulations[12] relating to vaping currently being phased in. In 2023, the Government introduced a ban on disposable vapes[13], a ban on advertising and sponsorship, a requirement for child safety mechanisms, and restrictions on flavour descriptions to reduce the number of young people taking up vaping and making vapes harder to access.

Vaping to quit smoking

According to the Ministry of Health,[14] vaping products have the potential to contribute to the Smokefree 2025 goal[15] by serving as a route out of smoking, but the Ministry does not recommend non-smokers to take up vaping. A New Zealand study[16] published in 2020 found that vaping was most common among ex-smokers, indicating that vaping is being used by smokers as a tool to transition away from cigarettes. The 2020/21 New Zealand Health Survey results also suggest that some smokers are substituting cigarettes for vapes, as explored in a blog post[17] by a group of University of Otago academics.

A 2021 evidence update[18] on vaping in England found that vaping products were the most popular aid used in attempts to quit smoking and their use was positively associated with smoking cessation. Other smoking cessation tools – including stop smoking support services, licenced medication, and nicotine replacement therapy – were also confirmed as effective, to varying extents. A 2021 systematic review[19] found that nicotine vape use increases smoking quit rates compared to nicotine replacement therapies, with moderate certainty.

When vaping is used to quit smoking, vape use can endure, with one study finding that 80% of people[20] who successfully gave up smoking using vapes were still vaping one year on. And some people don't quit smoking completely but rather become 'dual users' of both conventional cigarettes and vapes.[7] A 2022 New Zealand-based study that followed 100 people engaged in a 'vape to quit' initiative found that after six months, 16% were smoke and vapefree, 31% were smokefree and vaping, 31% were smoking and not vaping, and 22% were smoking and vaping.[21] Amongst participants who were vaping, 88.6% were using vape products containing nicotine.

The Vaping Facts website[22] produced by the Ministry of Health and the Health Promotion Agency provides information about vaping for people who want to quit smoking. As well continuing to look at vaping uptake and individual and population health impacts, the Ministry of Health is monitoring the effectiveness of vaping products as tools to support smoking cessation.

Vaping and young people

The safest approach for non-smokers is to avoid vaping. Some researchers are particularly concerned about uptake of vaping among non-smoking youth, with a survey-based study[23] published in 2021 finding that, among 13-18 year olds, 80% of ever-vapers and 49% of regular vapers reported that they were non-smokers when they first vaped.

Vaping among young people is becoming a public health issue. The 2020/21 New Zealand Health Survey found that, while there has been a recent sharp decrease in youth smoking, there has been an even sharper increase[24] in vaping among people aged between 15 and 25 years old such that, overall, there has been an increase in the prevalence of current use of any nicotine-based product in

this age group. A 2021 survey of New Zealand secondary school students,[25] published by the Asthma and Respiratory Foundation New Zealand and Secondary Principals' Association of New Zealand, found that 27% of students reported vaping in the last week (compared to 15% who reported smoking). 75% of vapers (or 20% of total respondents) reported vaping daily or several times a day, most with high nicotine doses, and 86% of those who reported vaping multiple times a day said that they felt addicted to vaping.

According to the Smokefree Aotearoa 2025 Action Plan[26] published in December 2021, the Ministry of Health will "focus on supporting our children and young people to choose to never vape." In addition, vaping products can't be sold to people under 18 years of age, it is illegal to vape in cars carrying young people, and specialist vape retailers must advise the Ministry of Health if they are selling vape products so that the government has a better understanding of how many retailers are operating. Te Whatu Ora and Te Aka Whai Ora collaborated with the creative agency Curative to launch a youth-led campaign called Later Vaper Arcade.[27] This school holiday installation in Auckland was a part of the broader campaign *Protect Your Breath* and used a series of games to generate conversations around the concept of breath.

Vaping-associated pulmonary injury

In 2019, the US Centres for Disease Control and Prevention (CDC) reported an outbreak of lung injury[28] associated with the use of vaping products (vaping-associated pulmonary injury, VAPI). Over 2,800 hospitalisations and nearly 70 deaths were reported as of 18 February 2020. Current evidence suggests that the outbreak was linked to vaping tetrahydrocannabinol (THC)/cannabis products, and in particular to the additive vitamin E acetate. THC/cannabis-containing e-liquids are illegal in Aotearoa New Zealand and there have been no reports of VAPI here.[29]

If you experience an adverse event associated with vaping, you can report it through the New Zealand Pharmacovigilance Centre.[30]

Read more

- Smokefree NZ[31]
- Asthma and Respiratory Foundation NZ[32]
- Healthify He Puna Waiora[33]
- ASH – Action for Smokefree 2025[34]
- Vaping and schools – Healthy Promotion Agency Te Hiringa Hauora[24]
- New Zealand Science Media Centre expert reactions to VAPI,[35] the link to vitamin E acetate,[36] and the reported epigenetic changes in smokers vs vapers[37]
- Listen to Dr Michelle Dickson discuss vaping with expert Dr Kelly Burrowes and current vaper Will Toogood on the Science Digest podcast[38]

Endnotes

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