



A 2024 REPORT INTO YOUTH VAPING:

# The ARFNZ/SPANZ/NZAIMS vaping in NZ youth survey





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*Disclaimer: This report has been externally peer reviewed, however surveys of this nature include potential for sampling and response bias (see limitations section). If information from this report is being used by external parties, clear acknowledgment of the limitations in survey methodology which have been clearly outlined within this report should be cited.*



## Purpose

This survey aimed to determine the current prevalence and patterns of use of electronic nicotine delivery systems (ENDS)/vaping product use in intermediate, middle and secondary school students across New Zealand.

## Key findings

- With over 11,300 respondents, this survey is one of the largest youth vaping surveys conducted in New Zealand.
- This survey is the first New Zealand vaping survey to include students in Years 7 to 13.
- Vaping in the last 7 days:  
Year 7 – 8 . . . . .49/1804 (2.7%)  
Year 9 – 11 . . . . .578/6690 (8.6%)  
Year 12 – 13 . . . . .542/2472 (21.9%).
- Smoking in the last 7 days:  
Year 7 – 8 . . . . .33/1807 (1.8%)  
Year 9 – 11 . . . . .154/6771 (2.7%)  
Year 12 – 13 . . . . .138/2486 (5.5%).
- Overall, in Years 9 – 13 there has been a substantial reduction in those reporting vaping (12.2% vs. 26.6%) or smoking (3.2% vs.14.6%) in the last 7 days compared to those in our 2021 survey.
- Vaping is most frequent in the Year 12 – 13 group with 21.9% having vaped in the last 7 days.
- There are ethnic disparities with rates of vaping in the last 7 days being highest in Māori and Pacific peoples.
- Of those students who had vaped in the last 7 days, 47% reported they felt addicted to vaping and 48% reported it was having a negative effect on their health.



## Introduction

Since their widespread introduction in 2017, ENDS (Electronic Nicotine Delivery Systems) or ‘vape’ products have been promoted in New Zealand as a harm reduction tool for current cigarette smokers who have been unable to give up despite smoking cessation support and current Medsafe approved medications. In contrast to this, the New Zealand Ministry of Health’s position is that vaping products are principally recreational rather than therapeutic, and that their use as a cessation aid for smokers is secondary.<sup>1</sup> Current daily smokers in New Zealand now make up around 6.8% of the adult population<sup>2</sup> and ENDS are seen by many in the public health space and by the Ministry of Health as the crucial aid to achieving Smokefree Aotearoa 2025.

Previous studies such as the ARFNZ/SPANZ 2021 Vaping in Youth Survey<sup>3</sup>, the New Zealand Health Survey<sup>2</sup> and the ASH Year 10 Survey<sup>4</sup> have found alarming rates of regular vaping in the secondary school population, with higher rates in Māori versus non-Māori. Concerningly, there have also been reports of vape use increasing in younger school-aged children in the middle year group (ages 10 – 13). There are now over 7,000 physical vape retailers nationwide, and the density of vape stores is greater in areas of higher socioeconomic deprivation. There are also 146 Specialist Vape Retailers (SVR) websites selling vapes online.<sup>5,6,7</sup> This provides high visibility and easy access to these products.

Over the past 7 years, regulations have been progressively introduced in New Zealand, with the aim of curbing youth vaping.<sup>5</sup> The Smokefree Environments and Regulated Products (Vaping) Amendment Act of November 2020 included: Prohibition of vaping advertising and sponsorship, banning sales to under-18s, and banning general retailers (dairies, supermarkets and service stations) from selling vaping or smokeless tobacco products that contain flavours other than tobacco, mint or menthol. Only approved SVRs are allowed to sell a full range of flavours. In 2023, new regulations required that no new SVRs were to set up and operate within 300m of schools or marae. However, this measure did not apply to generic retailers, such as dairies, many of which fall within this perimeter; nor did it apply to existing SVRs. December 2023 saw further new vaping laws implemented by the Ministry of Health in New Zealand that required all vaping products to limit nicotine strength, restrict e-liquid flavour names, and require child safety mechanisms and removable batteries on all products.

Since 2021, there have been major educational initiatives aimed at youth to help educate them on the harms of vaping and curb the high rates of youth vaping in Aotearoa. These include the ARFNZ’s youth vaping educators in schools programme, school education delivered by the Life Education Trust, and youth targeted informational websites on the harms of vaping such as the ‘Don’t Get Sucked In’ website (ARFNZ) and *Protect Your Breath* (Ministry of Health) campaign.

It is therefore important to look at vape use across a wide range of school year groups, and the impact of regulations and education efforts. This survey aims to determine the current prevalence of self-reported vaping, its relationship with combustible cigarettes, means of access to e-cigarettes, nicotine doses, and its impact on health in both middle and secondary school-age youth from across the country.



## Methods

ARFNZ developed an online survey aimed at secondary school (Year 7 – 13) students (Appendix 2). A total of 711 Intermediate and Middle Schools and New Zealand Secondary Schools were sent an invitation to participate in the ARFNZ/SPANZ/NZAIMS Vaping in New Zealand Youth Survey, via email, by the Secondary Principals’ Association of New Zealand (SPANZ) and the NZ Association of Intermediate Middle Schooling (NZAIMS) organisations. Participation was voluntary. Those schools participating in the survey were given a website address to provide to students giving them access to the online survey. Student participation was voluntary and anonymous, and the information collected was confidential. The survey ran during School Term 3, 2024.

## Results

This is the first survey looking at the prevalence of youth vaping that includes intermediate/middle-year students conducted in New Zealand.

A total of 11,319 respondents from 45 schools were used in the final analysis (Appendix 3). The distribution of year groups 7 – 13 is given in (Supplementary Data Table 4).

Self-reported ethnicity was as follows: 68.4% New Zealand European, 16.0% Māori, 10.7% Pacific peoples, 6.1% Chinese, 5.9% Indian and 15% other (Supplementary Data Table 3).

There was an even representation of Equity Index rated schools (Supplementary Data Figure 6).

### Smoking and use of e-cigarettes is frequent among our secondary school students.

Of the total surveyed, 10.7% reported that they had vaped (e-cigarettes) in the past 7 days, 14.6% in the past month and 24.7% in the last year. While 3% reported that they had smoked one or more traditional cigarettes in the last 7 days, 5.4% in the last month and 10.8% in the last year (Supplementary Data Tables 5, 6).

However, of the Year 9 – 13 students who had vaped in the last 7 days (1172) the majority (76%) had not smoked a cigarette in the last 7 days. Of those students who had smoked in the last 7 days (324), many were also dual using vapes, 286, (88%) in the last 7 days. (Table 1).

**Table 1: Correlation of those who smoke and/or vaped in the last 7 days, Year 9 – 13**

		Vaping last week	
		Yes	No
Smoking last week	Yes	286	38
	No	886	8923

Rates of vaping within the last week differed significantly by year group and ethnicity. The prevalence of vaping within the last 7 days was highest in Year 13 at 26%, followed by 20% in Year 12, 13% in Year 11, 10% in Year 10, and around 3% in Year 7 & 8 (Figure 1). The highest rates of vaping in the last 7 days were seen in Māori (19.7%) and Pacific peoples (16.6%). Lower rates were seen in Chinese (12.5%), Indian (11%), and New Zealand Europeans (10.7%) (Figure 2). There was no apparent correlation between vaping rates and school Equity Index Scores. (Supplementary Data Figure 6).



Figure 1: Year group and vaping within the last 7 days

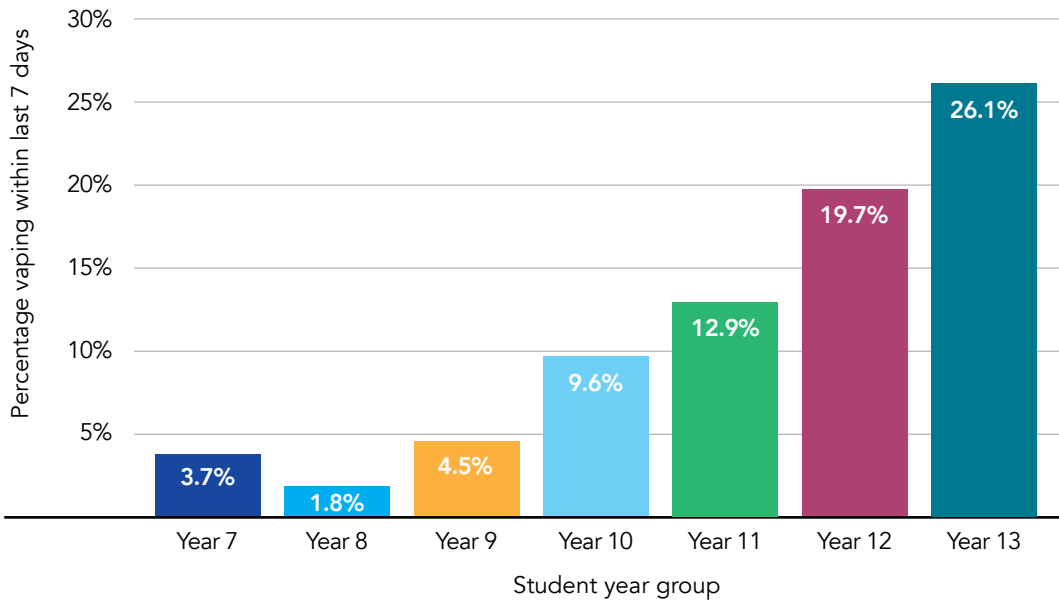


Figure 2: Ethnicity and vaping within the last 7 days

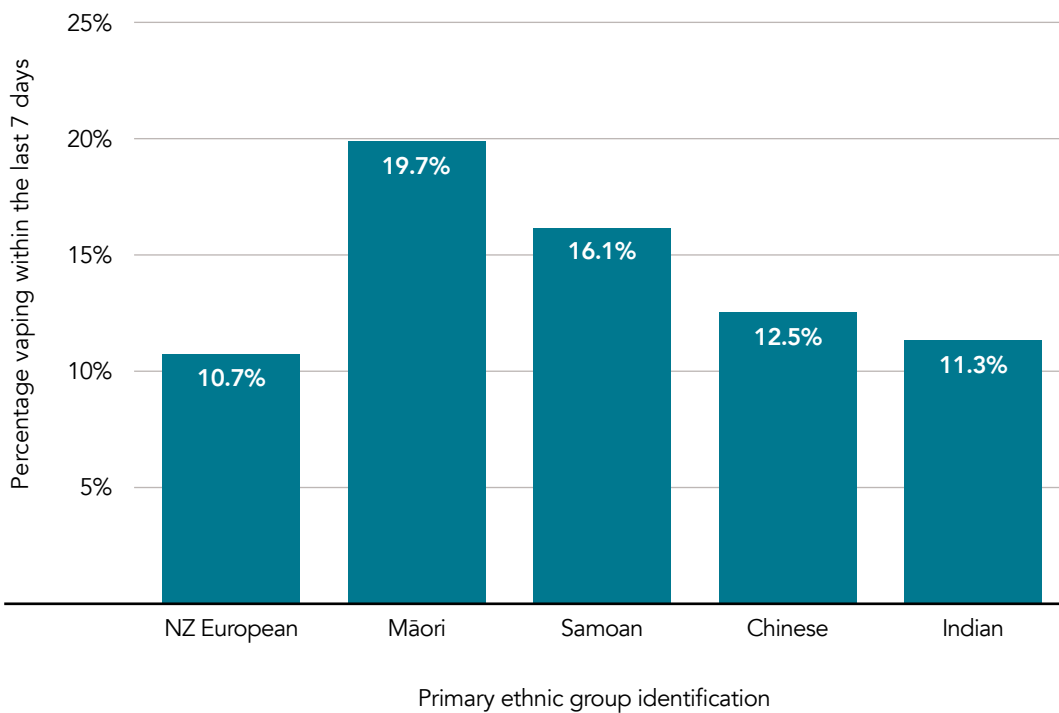
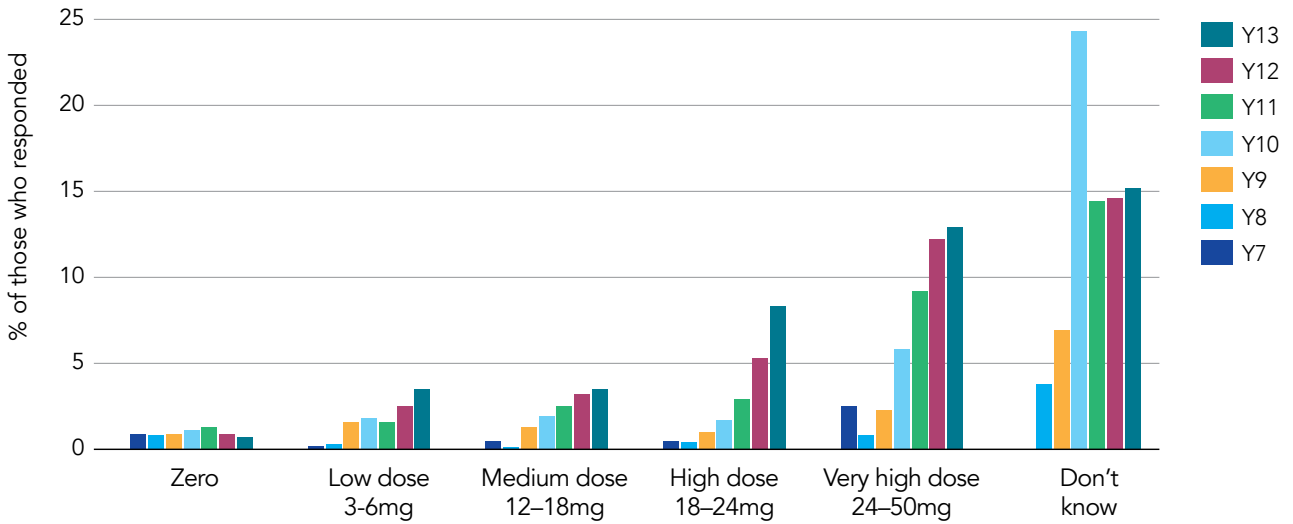


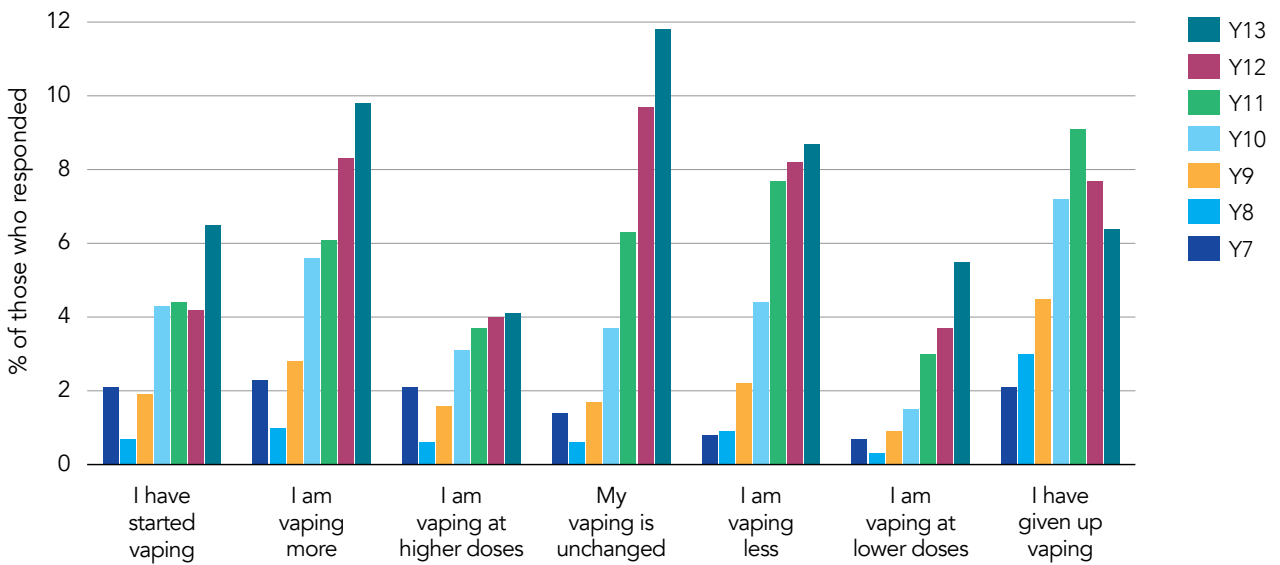


Figure 3: "How much nicotine was in your last vape?"



Of those who reported knowing the nicotine concentration of their vape, the majority were vaping at high to very-high doses (Figure 3). Of those surveyed, more had given up vaping than starting vaping in the last year (Figure 4). This was the case in every year except Year 13. Year 12 & 13 students had the highest rates of starting vaping or were vaping more compared to any other year group.

Figure 4: Comparison of vaping behaviours compared to the previous year





Feeling addicted to their vapes, and vaping having a negative impact on their health, increased as the year groups (ages) increased.

Of those students, who had vaped in the last 7 days, 47% reported they felt addicted to vaping and 48% reported it was having a negative effect on their health.

Overall, 10% of all students responding reported that vaping had a negative impact on their health, and 5% responded that they felt addicted to their vaping. Reported rates of feeling addicted to their vapes, and vaping having a negative impact on their health, increased as the year groups (ages) increased (Table 2).

Of 1173 students who reported vaping in the last 7 days, 275 (23%) were vaping daily and 495 (42%) reported vaping several times a day. A substantial number, 318, reported waking in the middle of the night to vape.

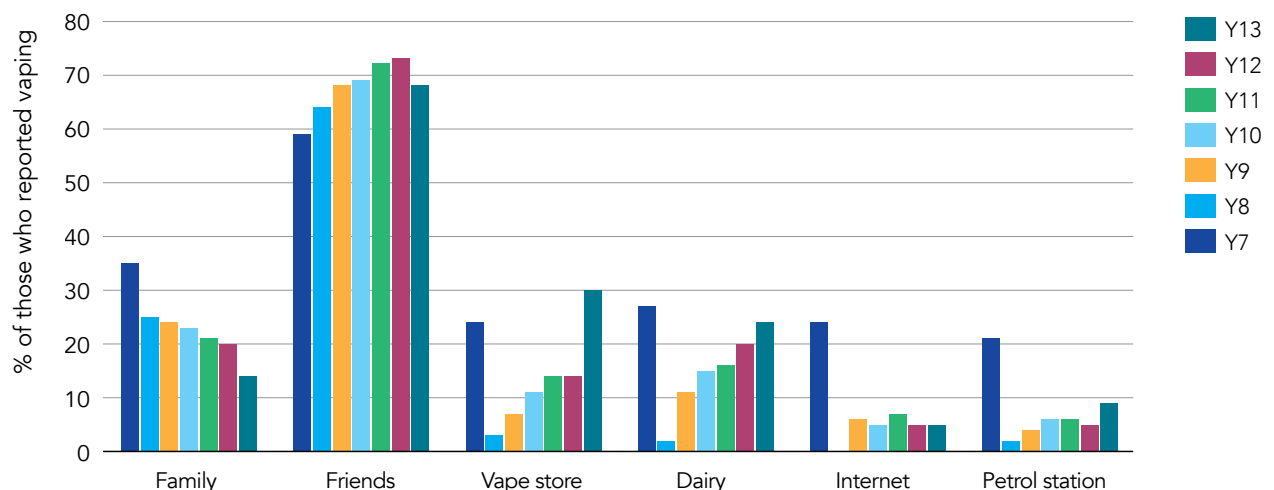
Table 2: Reported impact of vaping on health and feelings of addiction in all respondents

	All	Y7	Y8	Y9	Y10	Y11	Y12	Y13
<b>Negative effect on health</b>	1103 (9.7%)	19 (2.1%)	29 (2.3%)	146 (5.7%)	237 (10.5%)	240 (12.1%)	264 (16.0%)	166 (18.3%)
<b>Addicted to vape</b>	558 (4.9%)	10 (1.1%)	9 (0.9%)	59 (2.3%)	109 (4.8%)	124 (6.3%)	155 (9.4%)	92 (10.1%)

The most common source of supply for students was from friends across all year groups.

Overall, the greatest proportion of students who vape (70%) obtain their vapes from friends (Figure 5). However, 24.6% percent are obtaining vapes directly from retailers (defined as vape stores, dairies and petrol stations).

Figure 5: "Where do you get your vapes from?"







## Commentary

This current survey is one of the largest surveys conducted into youth vaping in New Zealand, and the first to look at Year groups 7 – 13 (ages 10 – 18). Major findings included:

1. **10.7% of total respondents had vaped and 3% had smoked a traditional cigarette in the last 7 days.**
2. **3.7% of Year 7s, and 26% of Year 13s had vaped in the last 7 days.**
3. **There are ethnic disparities with rates of vaping in the last 7 days being highest in Māori and Pacific peoples.**
4. **Of those students, who had vaped in the last 7 days, 47% reported they felt addicted to vaping and 48% reported it was having a negative effect on their health.**
5. **Of those who vaped, 24.6% reported obtaining their vapes from retailers.**

The prevalence of vaping reported in this survey is substantially lower than that found in the 2021 ARFNZ/SPANZ Youth Vaping report.<sup>3</sup> Of those surveyed in the 2021 report, 27% of total respondents had vaped in the last 7 days, and 15% had smoked a cigarette. Lack of regulation and education around the harms of vaping may have played a role in the high prevalence of vaping reported in the 2021 survey. Since this time, a number of regulations and education programmes have been introduced that may have led to the lower prevalence of vaping seen in the current survey. It is worth noting that the Year 10s in the 2021 ARFNZ Vaping Survey, correspond to the Year 12s and Year 13s in this survey, which are the highest weekly users respectively (20% Year 12, 26% Year 13).

Regulations and education appear to be having an impact, but we are still seeing high levels of regular vaping. We cannot take our foot off the pedal, and we need to help those who are already addicted to vaping.

### Education aimed at youth

Since 2017, the ARFNZ has been at the forefront of advocating for stronger regulations and tighter restrictions on the sale and availability of vaping products, recognising the growing popularity and use of vapes among New Zealand's youth.

In response to the high youth vaping rates found in the 2021 ARFNZ/SPANZ Youth Vaping Survey, the ARFNZ began delivering school vaping educational workshops in May of 2022. These school-based programmes were the first interactive workshops delivered in schools and community settings, with the aim to raise awareness and foster understanding of the harms of vaping, whilst also engaging youth to offer their perspectives and ideas. Educational initiatives have also been delivered by the Life Education Trust and others. Youth-targeted informational websites such as the 'Don't Get Sucked In' website (ARFNZ) which has had over 215,000 site visitors since January 2022, and the 'Protect Your Breath' (Ministry of Health) campaign have also been important sources of information on the harms of vaping.

Continued emphasis on youth vaping educational programmes, tighter regulations and greater enforcement are needed to assist with further lowering youth vaping rates in New Zealand. It will be



important to complement these programmes with initiatives to support youth already addicted to vaping to quit.

As seen in this survey, Years 12 and 13, are vaping at substantially higher rates (19.7% Y12 and 26.1% Y13) than seen in the 2021 survey (16.8% Y12 and 12.6% Y13 in the 2021 survey), and nearly half of those reportedly feeling addicted to their vape. It was in November 2023, the Foundation launched New Zealand's first 'Quit Vaping Reference Guide to Support Young People to Quit Vaping' in response to a lack of resources and support in this space. The reference guide was developed to be worked through by health professionals and teens together, and included a vaping diary and a list of known support services throughout Aotearoa.

### **2023 national surveys**

The ASH<sup>4</sup> Year 10 survey (2023) confirmed that the uptake of these products was not limited to adults, but that many ENDS consumers were, in fact, adolescents, and that regular vaping rates for Māori were very high, sitting at 32% for Year 10 versus 14% for European/Pākehā. Māori girls were especially high at 38.7%.

The New Zealand Health Survey<sup>2</sup> results for 15-17-year-olds who used vapes at least once a day, was 0.6% in 2017/18 jumping to 15% of 15 – 17-year-olds in 2022/23; and for 18 – 24-year-olds it increased from 4% in 2017/18 to 25% in 2022/23. For total Māori, this figure went from 4.7% in 2017/18 to 23.5% in 2022/23.

### **Need for a whānau voice approach**

While both NZ European and Māori rates of weekly vaping of the total Year 9 – 13 students surveyed were around the 32% in the ARFNZ 2021 survey<sup>3</sup>, and although vaping rates have gone down significantly for both groups, the ethnic disparity gap is still wide. This survey found rates of vaping in the past week by Māori students at 20% and at 11% for NZ European students: in other words weekly vaping is nearly twice as high among Māori than NZ European students.

The ASH Year 10 Survey (2023)<sup>4</sup> also highlighted similar ethnic disparities in vaping and smoking behaviours among New Zealand youth. Regular vaping (defined as daily, weekly, or monthly) rates in the ASH Year 10 Survey (2023) found 32.0% of rangatahi Māori vaping regularly, compared to 16.4% of non-Māori. Furthermore, 59.0% of rangatahi Māori reported having tried vaping, compared to 37.5% of the total population. Rangatahi Māori, much like cigarette consumption before, appear to be disproportionately affected by vaping.

Despite these concerning statistics, most rangatahi Māori have never smoked, with that rate increasing from 73.8% in 2022 to 77.7% in 2023. However, there is still a 10.1% difference between rangatahi Māori being more likely to smoke than non-Māori. These findings suggest that as Māori and other youth move into young adulthood, they are more likely to maintain vaping habits, even without a smoking history. The data underscores the need for targeted interventions, particularly for rangatahi Māori, to address the vaping disparities.



## Nicotine

Nicotine is a highly addictive substance, and nicotine addiction is central to the business model of the tobacco industry. It is highly concerning that of those students who vaped in the last 7 days, in Years 12 and 13, around 12% reported vaping at very high (24 – 50 mg) nicotine doses.

New regulations that came into force in New Zealand, on December 21st 2023, required all disposable vapes to have a nicotine limit of 20mg. As of March 21st, 2024, all e-liquids (for re-fillable ENDS products) were required to have nicotine limits of 28.5mg and to adhere to the limited flavour names provided by the Ministry of Health. Flavour names were limited to two words, accurately described by generic flavour names provided by the Ministry of Health. From October 1st, 2024, all vapes sold in New Zealand are to have a removable battery and child safety mechanisms.

Nicotine poses health risks to children, adolescents and pregnant women. Studies have shown deleterious effects of nicotine on brain development, potentially leading to learning difficulties and anxiety.<sup>8,9</sup>

Nicotine exposure can also have similar consequences for the brain development of the foetus.<sup>10,11</sup> These findings have resulted in numerous medical societies and scientific organisations stating that ENDS are not safe for use in youth and young adults, and calling for regulation.<sup>12-14</sup>

We know that limiting the nicotine content in vapes plays a pivotal role in reducing the risk of our rangatahi becoming addicted to vaping. The consensus is that smoking a packet of 20 cigarettes results in an individual inhaling between 22 – 36 mg of nicotine.<sup>14</sup> The freebase nicotine found in cigarettes is relatively bitter and usually unpalatable in high concentrations. However, vape manufacturers have developed nicotine salt formulations (nicotine salts) that deliver higher levels of nicotine to the user in a more palatable form. High concentrations of nicotine in vapes make it very easy for youth to inhale the equivalent amount of nicotine that is in a packet of cigarettes, in a very short time.

The ARFNZ has provided a submission to the 2024 Smokefree Environments and Regulated Products Amendment Bill (No 2)<sup>15</sup> again requesting a capped limit of 20 mg of nicotine regardless of freebase or nicotine salt composition.

The World Health Organisation (WHO) published its 2024 report titled *“Hooking the Next Generation: How the Tobacco Industry Captures Young Customers,”*<sup>16</sup> which highlights the marketing tactics of big tobacco and related industries that manufacture vaping products/ENDS to hook young people and sustain and grow the tobacco business.

*“History is repeating, as the tobacco industry tries to sell the same nicotine to our children in different packaging. These industries are actively targeting schools, children and young people with new products that are essentially a candy-flavoured trap. How can they talk about harm reduction when they are marketing these dangerous, highly addictive products to children?”*

DR TEDROS ADHANOM GHEBREYESUS. DIRECTOR-GENERAL, WORLD HEALTH ORGANIZATION



## Health effects

Vaping has been consistently associated with depression, attention-deficit/hyperactivity disorder (ADHD), and conduct disorder in adolescents.<sup>17</sup> Nicotine exposure has been shown to adversely affect brain development and increases the risk of problems with learning and memory.<sup>18</sup>

Recent studies on the cardiovascular impact of ENDS include evidence of inflammation, oxidative stress, and haemodynamic imbalance, which are known cardiovascular risk factors, and a link between vaping and heart failure due to muscle stiffening.<sup>19-21</sup> Epidemiological studies have also linked ENDS use to an increased risk of myocardial infarction.<sup>22</sup> A number of studies have suggested that dual use of smoking and ENDS can increase the risk of respiratory and cardiovascular conditions relative to single product use alone<sup>23-25</sup> and that those who both vape and smoke are at a higher risk for heart disease and stroke.<sup>26</sup> Dual use of cigarettes and ENDS in New Zealand is common, with a recent New Zealand study showing that 64% of adult smokers using both vaping products and cigarettes.<sup>27</sup>

There is also evidence that vaping makes the lungs more susceptible to infection and that there is a significant association of ENDS use with asthma, chronic bronchitis and COPD.<sup>28</sup>

While the long-term health effects of ENDS use are still unknown, there is an abundance of evidence to demonstrate that these products are not harmless.<sup>29-31</sup> Studies in cell cultures, animal models, and human studies have shown that the use of ENDS is linked to several biological processes involved in the pathogenesis of respiratory disease in humans.<sup>32</sup>

Although electronic cigarette aerosols may have less cytotoxic compounds that are inhaled compared to combustible cigarettes, they still expose users to carcinogenic and toxic substances that have been shown to have adverse effects on the respiratory, circulatory and cardiovascular systems, with the long-term carcinogenic effects of these exposures still unclear.

## Proximity and access of vaping products

A New Zealand study by Hobbs et al<sup>7</sup>, found that there were more vape stores in lower socioeconomic areas and close to schools, with almost 30% of vape stores within 400 metres of a school, and 71% within 800 metres. There were also around seven times more vape stores in lower socioeconomic areas. The study found that only 22 schools in the least deprived decile had a vape store within 1km compared with 172 schools in the lowest socioeconomic areas. The ARFNZ's recommendations, in 2021, were to limit the number of retailers nationally and prevent the sale of vaping products within a one-kilometre radius of any school by retailers. However, New Zealand regulations to limit proximity to schools and marae that came into effect in September 2023 only required that no new specialist vape retailers (SVRs) were allowed to set up and operate within 300m of schools or marae. This new regulation did not apply to existing SVRs, or general retailers, such as dairies.

The limitations of the above regulations has allowed stores that sell vapes to proliferate in high density, and not surprisingly, in lower socioeconomic areas.

## The Australian approach

As of 1 October 2024,<sup>33</sup> all vapes sold in Australia (which are classified as therapeutic vapes), whether they contain nicotine or not, can only be sold in a pharmacy to help people quit smoking or manage nicotine dependence. It is illegal for any other retailer – including tobacconists, vape shops and convenience stores – to sell any type of vape or vaping product.



There are two lawful pathways for accessing therapeutic vapes in Australia, with different rules and restrictions. These are 1: the pharmacist model, or 2: the prescription model. Under the pharmacist model, patients who are 18 years or over may be able to access therapeutic vapes with a maximum nicotine concentration of 20 mg/mL without a prescription in some states.

Patients are only able to access those therapeutic vapes under this model if the participating pharmacist is satisfied that supply is clinically appropriate for smoking cessation or the management of nicotine dependence, and has sighted evidence of the patient's identity and age.

Comparatively, under the prescription model, patients must have a prescription from a medical or nurse practitioner before a participating pharmacy will dispense a therapeutic vape. Therapeutic vapes containing more than the 20 mg/mL of nicotine concentration are not permitted for sale in Australia without a prescription in any circumstances.

In all circumstances, a pharmacist can only supply a vaping device if satisfied it will be used for smoking cessation purposes or the management of nicotine dependence. The Therapeutic Goods Administration (TGA)<sup>34</sup> has a list of notified vapes that can be legally supplied by participating pharmacies in Australia.

## Conclusion

Given the negative health effects of vaping and the highly addictive nature of nicotine, continued monitoring of youth uptake of vaping products in New Zealand is warranted. This survey adds to the available evidence in New Zealand to determine the current prevalence of self-reported vaping, its relationship with combustible cigarettes, means of access to e-cigarettes, nicotine doses, and its impact on health in both middle and secondary school-age youth from across the country. This survey also reflects on how regulations and education can have a positive effect on the uptake of youth vaping in Aotearoa.

Our survey findings have highlighted some positive gains when it comes to youth vaping in Aotearoa, and some areas of concern that still need addressing. It is hoped that future regulations surrounding access, visibility of products, and promotion will have an even greater impact on preventing our youth from accessing these products and becoming addicted to nicotine. Emphasis should be placed on continuing educational programmes around the harms of vaping and investment in quit vaping support services aimed at our already vape addicted youth.



## Te Hā Ora: Asthma and Respiratory Foundation New Zealand recommends the following:

- 1. Help for 2021 Year 9 and 10's who are now Year 12 and 13 – support to quit.**
- 2. Continued vaping education in schools from Year 7 (ARFNZ programme).**

Emphasis must be placed on ARFNZ educational campaigns aimed at youth and quit vaping campaigns and investment in support services.
- 3. Regulations be introduced to limit the content of nicotine available in ENDS/vaping products sold in New Zealand, to a maximum of 20mg (2%).**

This would be in line with the maximum nicotine concentrations of 20 mg/mL (2.0%) that is allowed in the European Union.
- 4. Raise the legal age to purchase ENDS/vape products to 21 years.**

The US Food and Drug Administration (FDA) increased the purchasing age in the US for ENDS and vaping products from 18 years to 21 years in December 2019, a move strongly supported by the American Lung Association to “reduce youth access to tobacco products and help save lives.”
- 5. Ban in-front-of-store retailer window advertising and online.**

The visual appeal of ENDS and vaping products to youth is well documented, and the associated influence that this can have on adolescents being attracted to ENDS.
- 6. No more SVRs to be approved. Cap the number of retailers nationally and prevent the sale of vaping products within a one kilometre radius of any school by both specialist and general retailers.**

Several published studies have investigated the presence of vape shops within walkable distances of schools, and easy access by students to vaping products. Studies suggest that the point-of-sale access by general retailers close to schools, may contribute to e-cigarette use among youth.
- 7. Further surveys are required to investigate the impact of new regulations such as those proposed in Smokefree Environments and Regulated Products Amendment Bill (No. 2) as they come into effect.**

### Limitations

The schools who agreed to take part, may themselves be an unrepresentative selection, as these schools could be the most likely to have invested in vaping awareness, internal regulatory measures, deterrents such as vape detectors in bathrooms, and vaping education workshops. Limitations for any survey of this nature include a potential for sampling and response bias. We do not know the degree to which our results are generalisable to the entire secondary school population of New Zealand. As questionnaires were not administered by researchers and all data are self-reported by students, there is a potential for misclassification of some of the responses.



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## APPENDIX 1:

### 2021 Recommendations by Te Hā Ora: Asthma and Respiratory Foundation NZ and the status as of 2024 for those recommendations:

- 
1. Regulations be introduced to limit the content of nicotine available in ALL ENDS/vaping products sold in New Zealand to a maximum of 20mg (2%) regardless of nicotine salts or freebase nicotine.

**Status:** December 2023 disposable vapes limited to 20mg, and as of March 2024 all e-liquids limited to a nicotine content of 28.5mg/L.

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2. Raise the legal age to purchase ENDS/vape products to 21 years.

**Status:** Not actioned. The current legal age to purchase ENDS/vape products is 18 years.

- 
3. Ban in-front-of-store window advertising or viewing of products by retailers.

**Status:** Not actioned, currently being considered in the 2024 Smokefree Environments and Regulated Products Amendment Bill (No. 2) to reduce visibility of vaping products in all retail spaces, and online.

- 
4. Limit the number of retailers nationally and prevent the sale of vaping products within a 1km radius of any school by retailers.

**Status:** No new Specialist Vape Retailers (SVRs) to set up and operate within 300m of schools or marae. Does not apply to existing SVRs before the regulation came into effect in October 2023, or general retailers, such as dairies.

- 
5. Emphasis to be placed on Aotearoa educational campaigns aimed at youth and focused on the health harms that vaping can cause.

**Status:** ARFNZ launched vaping education workshops in 2022 followed by the 'Reference guide: To support rangatahi to quit vaping' which was released in Nov 2023, with no support from the Ministry of Health.

- 
6. Further surveys are required to investigate the impact of any new regulations introduced as amendments to the Smokefree Environments and Regulated Products Act 1990 (No. 2).





## APPENDIX 2: Survey questionnaire

**Q1.** Which school do you go to?

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**Q2.** Which year group are you in?

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**Q3.** Ethnicity

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- NZ European
- Māori
- Samoan
- Cook Island Māori
- Tongan
- Niuean
- Chinese
- Indian
- Other (such as Dutch, Japanese, Tokelauan. Please state)

**Q4.** What is your gender?

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- Male
- Female
- Another gender. Please state:

**Q5.** Have you smoked one or more traditional cigarettes?

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- In the last week
- In the last month
- In the last year
- Never smoked a traditional cigarette

**Q6.** Have you vaped (e-cigarettes)...

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- In the last week
- In the last month
- In the last year
- Never vaped an e-cigarette

**Q7.** If you have vaped, where do you get your vape supplies from? You can tick multiple answers.

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- Not vaped
- From family members
- From friends
- From a vape speciality store
- From a dairy
- From internet suppliers
- From a petrol station
- Other (please specify)



**Q8.** Thinking about the *last time* that you vaped - how much nicotine was in the vape?

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- Zero-nicotine 0mg
- Low dose nicotine 3mg–6mg
- Medium dose nicotine 12mg–18mg
- High dose nicotine 18mg–24mg
- Very high dose nicotine 24mg–50mg
- Don't know / unsure

**Q9.** How often do you use vape products (e-cigarettes)?

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- Never
- Monthly
- Weekly
- Daily
- Several times a day

**Q10.** If you use vapes or e-cigarettes on a daily basis, what time of day do you usually have your first vape?

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- Don't vape daily
- Wake in the night to vape
- Before breakfast
- Before school
- During the morning
- Middle of the day
- During the afternoon
- In the evening

**Q11.** If you are a regular user of vapes or e-cigarettes ( vapes at least weekly), have they replaced traditional cigarettes?

---

- Not a regular user of vapes
- Vaping has replaced traditional cigarettes
- Now I use vapes as well as traditional cigarettes
- I vape but I have never been a regular smoker of traditional cigarettes

**Q12.** Compared to this time last year, which of these statement is true? You can tick multiple boxes.

---

- I have started vaping since this time last year.
- I am vaping more frequently than this time last year.
- I am vaping at higher doses of nicotine than this time last year.
- My vaping habits are very similar to this time last year.
- I am vaping less frequently than this time last year.
- I am vaping at lower doses of nicotine than this time last year.
- I have given up vaping in the last year.



**Q13.** Which of the following statements are true about your vaping habits? You can tick multiple boxes.

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- I have got into trouble at school because of vaping.
- I have got into trouble at home because of vaping.
- My education has been affected by my vaping / I have missed class time because of vaping.
- I am happy with the amount that I vape and the concentration of nicotine.
- I have tried to reduce my vaping.
- I have tried to reduce the concentration of nicotine that I am vaping.
- I have sought help regarding my vaping (eg. from a teacher, counsellor, 1737, Public Health Nurse, etc)
- I rarely think about my vaping.
- Vaping has had no effect on my school or home life.
- None of the above.

**Q14.** Do you think vaping has had an effect on your health?

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- No
- Yes
- How has vaping effected your health? (please specify)

**Q15.** Do you feel that you are addicted to your vape?

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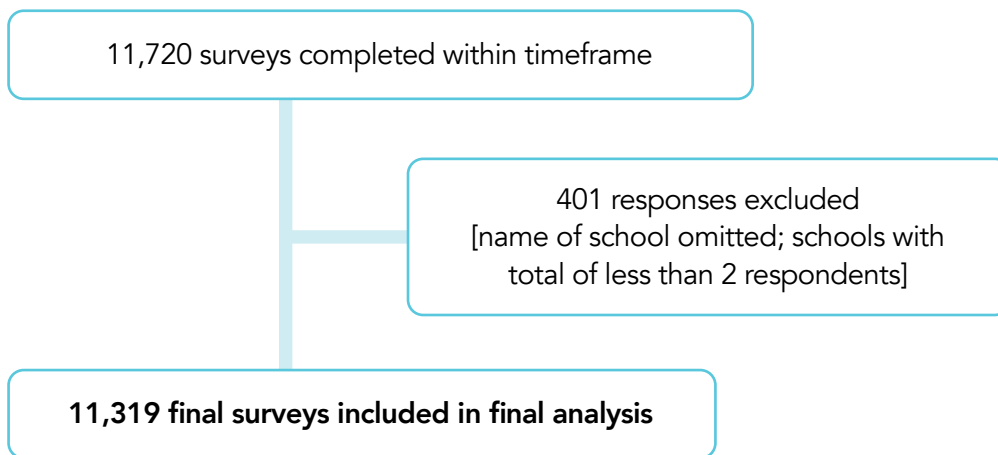
- Yes
- No



## APPENDIX 3: Methodology

11,720 surveys were completed. For the final analysis, 401 completed surveys were excluded for the following reasons: the name of the school was omitted, a school had a total of less than 20 respondents. 45 schools across the country made up the final analysis, with a total of 11,319 respondents (Figure 6).

Figure 6: Surveys included in the final analysis



## APPENDIX 4: Aotearoa vaping educational campaigns

### Don't get sucked in

ARFNZ, information, resources and a quiz so you can make sure you don't get sucked into vaping.

### Vaping facts

Ministry of Health, NZ

### Learn about vaping

Smokefree NZ

### Protect Your Breath

Ministry of Health, NZ

### ARFNZ Reference Guide:

#### To support rangatahi to quit vaping

ARFNZ, guide to assist health professionals who work with adolescents and young adults to tackle vaping addiction.

### National Training Services

Guidance for Health Workers In Aotearoa New Zealand on supporting people to stop vaping and using vaping to stop smoking.



## Supplementary data

Table 3: Ethnicity

<b>Māori</b>	16.0%
<b>NZ European</b>	68.4%
<b>Pacific</b>	10.7%
<b>Chinese</b>	6.1%
<b>Indian</b>	5.9%
<b>Other</b>	15.0%

(Note that we have used total ethnicity, allowing individuals to identify with more than one ethnic group).

Table 4: Which year group are you in?

	<b>School year</b>	<b>Frequency</b>	<b>%</b>	<b>Valid %</b>	<b>Cumulative %</b>
Valid	Year 7	887	7.8	7.9	7.9
	Year 8	953	8.4	8.5	16.4
	Year 9	2,584	22.8	23.0	39.4
	Year 10	2,259	20.0	20.1	59.5
	Year 11	1,984	17.5	17.7	77.2
	Year 12	1,655	14.6	14.7	91.9
	Year 13	907	8.0	8.1	100.0
	Total		11,229	99.2	100.0
Missing	System	90	0.8		
Total		11,319	100.0		



Table 5: Have you smoked one or more traditional cigarettes?

		Frequency	%	Valid %	Cumulative %
Valid	In the last week	327	2.9	3.0	3.0
	In the last month	270	2.4	2.4	5.4
	In the last year	599	5.3	5.4	10.8
	Never smoked a traditional cigarette	9,831	86.9	89.2	100.0
Total		11,027	97.4	100.0	
Missing	System	292	2.6		
Total		11,319	100.0		

Table 6: Have you vaped (e-cigarettes)?

		Frequency	%	Valid %	Cumulative %
Valid	In the last week	1,173	10.4	10.7	10.7
	In the last month	434	3.8	3.9	14.6
	In the last year	1,112	9.8	10.1	24.7
	Never vaped an e-cigarette	8,272	73.1	75.3	100.0
Total		10,991	97.1	100.0	
Missing	System	328	2.9		
Total		11,319	100.0		

Figure 7: School Equity Index Score for the 45 schools used in the final analysis

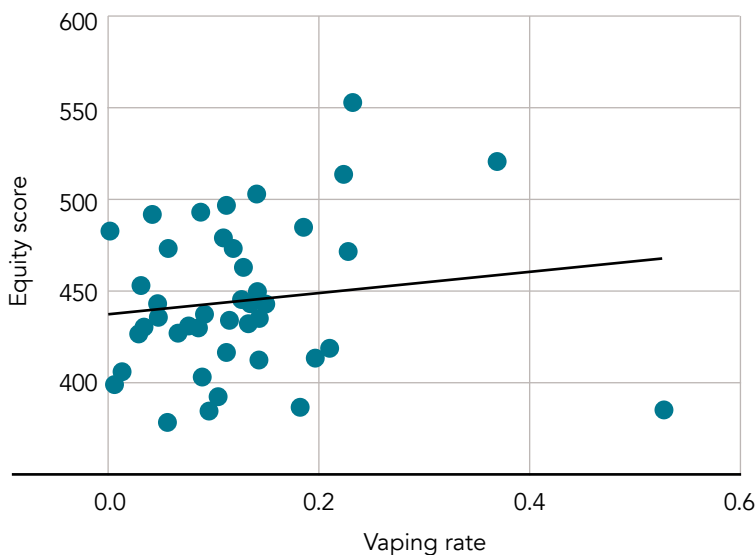




Table 7: Vaping by year group

	Last week	Last month	Last year	Never
Year 7 (n = 867)	32 (3.7%)	13 (1.5%)	18 (2.1%)	804 (92.7%)
Year 8 (n = 937)	17 (1.8%)	7 (0.7%)	35 (3.7%)	878 (93.7%)
Year 9 (n = 2540)	114 (4.5%)	46 (1.8%)	180 (7.1%)	2200 (86.6%)
Year 10 (n = 2214)	213 (9.6%)	88 (4.0%)	245 (11.1%)	1668 (75.3%)
Year 11 (n = 1936)	251 (12.9%)	109 (5.6%)	272 (14.0%)	1304 (67.3%)
Year 12 (n = 1609)	317 (19.7%)	96 (5.9%)	248 (15.4%)	948 (58.9%)
Year 13 (n = 863)	225 (26.1%)	74 (8.6%)	112 (13.0%)	452 (52.3%)

Table 8: For all respondents - where do you get your vapes from? *multiple selections allowed*

	All	Y7	Y8	Y9	Y10	Y11	Y12	Y13
Family	588 (5.2%)	24 (2.7%)	19 (2%)	88 (3.4%)	127 (5.6%)	133 (6.7%)	136 (8.2%)	57 (2.6%)
Friends	1947 (17.2%)	37 (4.2%)	41 (4.3%)	243 (9.4%)	385 (17%)	465 (23.4%)	490 (29.6%)	284 (31.3%)
Vape store	412 (3.6%)	15 (1.7%)	2 (0.2%)	30 (1.2%)	61 (2.7%)	88 (4.4%)	94 (5.7%)	122 (13.5%)
Dairy	479 (4.2%)	17 (1.9%)	1 (0.1%)	41 (1.5%)	83 (3.7%)	102 (5.1%)	134 (8.1%)	100 (11%)
Internet	165 (1.5%)	15 (1.7%)	0	23 (0.9%)	28 (1.2%)	45 (2.3%)	33 (2%)	21 (2.3%)
Petrol station	179 (1.6%)	13 (1.5%)	1 (0.1%)	18 (0.7%)	35 (1.5%)	37 (1.9%)	37 (2.2%)	38 (4.2%)

Table 9: For all respondents - how much nicotine was in your last vape?

	All	Y7	Y8	Y9	Y10	Y11	Y12	Y13
Zero	108 (1%)	8 (0.9%)	8 (0.8%)	22 (0.9%)	24 (1.1%)	25 (1.3%)	15 (0.9%)	6 (0.7%)
Low dose	192 (1.7%)	2 (0.2%)	3 (0.3%)	42 (1.6%)	40 (1.8%)	31 (1.6%)	42 (2.5%)	32 (3.5%)
Medium dose	218 (2.6%)	4 (0.5%)	1 (0.1%)	33 (1.3%)	44 (1.9%)	50 (2.5%)	53 (3.2%)	32 (3.5%)
High dose	296 (2.6%)	4 (0.5%)	4 (0.4%)	27 (1.0%)	39 (1.7%)	57 (2.9%)	88 (5.3%)	75 (8.3%)
Very high dose	726 (6.4%)	22 (2.5%)	8 (0.8%)	59 (2.3%)	132 (5.8%)	183 (9.2%)	202 (12.2%)	117 (12.9%)
Don't know	1183 (10.5%)	32 (3.6%)	36 (3.8%)	179 (6.9%)	549 (24.3%)	285 (14.4%)	242 (14.6%)	138 (15.2%)

Table 10: For all respondents - since last year... *multiple selections allowed*

	All	Y7	Y8	Y9	Y10	Y11	Y12	Y13
I have started vaping	393 (3.5%)	19 (2.1%)	7 (0.7%)	50 (1.9%)	98 (4.3%)	88 (4.4%)	70 (4.2%)	59 (6.5%)
I am vaping more	578 (5.1%)	20 (2.3%)	10 (1%)	72 (2.8%)	127 (5.6%)	122 (6.1%)	137 (8.3%)	89 (9.8%)
I am vaping at higher doses	540 (4.8%)	19 (2.1%)	6 (0.6%)	42 (1.6%)	70 (3.1%)	73 (3.7%)	66 (4.0%)	37 (4.1%)
My vaping is unchanged	540 (4.8%)	12 (1.4%)	6 (0.6%)	43 (1.7%)	84 (3.7%)	125 (6.3%)	161 (9.7%)	107 (11.8%)
I am vaping less	540 (4.8%)	7 (0.8%)	9 (0.9%)	56 (2.2%)	99 (4.4%)	152 (7.7%)	136 (8.2%)	79 (8.7%)
I am vaping at lower doses	238 (2.1%)	6 (0.7%)	3 (0.3%)	23 (0.9%)	34 (1.5%)	59 (3.0%)	62 (3.7%)	50 (5.5%)
I have given up vaping	693 (6.1%)	19 (2.1%)	29 (3%)	116 (4.5%)	163 (7.2%)	180 (9.1%)	127 (7.7%)	58 (6.4%)