

**Submission
No 7**

E-CIGARETTE REGULATION AND COMPLIANCE IN NEW SOUTH WALES

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Inquiry into E-cigarette regulation and compliance in New South Wales

24 October 2023

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Submission on behalf of myself

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I have never received funding from e-cigarette or tobacco companies

Executive summary

- This Inquiry is focussed only on the harms of vaping. However, a proper risk assessment should also consider the benefits. There is strong evidence that vaping is displacing smoking in youth and adults and is improving public health overall.
- The key measure of prevalence for youth vaping from a public health point of view is daily or frequent vaping of nicotine by never-smokers.
- Less than 2% of never-smoking 14-17-year-olds in NSW vape nicotine frequently (on 6 or more days or weekly) in the last month.
- Use of 'lifetime', 'past 12-month' or 'current' vaping exaggerate the prevalence
- Vaping prevalence should not be considered in isolation but should take into account its impact in reducing smoking rates. There is a clear association between increasing youth vaping rates and declining youth smoking rates
- Youth vaping by never-smokers carries relatively minor health risk, especially as the dominant pattern is infrequent and short-term use.
- Long-term use is highly likely to be considerably less harmful than smoking
- Vaping is likely to be beneficial for young smokers who switch and may divert young people who would otherwise have taken up smoking.
- Vaping is not a net gateway to youth smoking. In fact, vaping is reducing smoking rates overall in young people.
- Vaping prevention trials so far have had limited success.
- The Federal Government's regulatory model has failed to meet its stated goals. The proposed reforms are unlikely to be effective and are likely to make them things worse. A totally different regulatory model is required.
- The current regulations have created a thriving black market controlled by criminal networks, selling illegal, unregulated vaping products freely to young people. Current policing and enforcement are having minimal effect.
- The only way to eliminate a black market is to replace it with a legal, regulated one.
- The key to reducing youth vaping is a tightly regulated consumer model in which nicotine vapes are sold as adult consumer products by licensed retail outlets with strict age verification, like cigarettes and alcohol.
- The NSW Parliament can reclassify low concentrations of nicotine as a consumer product.
- Regulations should be proportionate to risk and reflect the lower harms of vaping relative to smoking.
- The consumer model would also make vapes more readily and legally available to adult smokers who wish to quit.
- It is unacceptable that NSW Health is disseminating alarmist and inaccurate information to the public on vaping.

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1. The current situation in NSW

i) The prevalence of e-cigarette use among children and young people

There are two important considerations regarding vaping prevalence

1. **Definitions.** The key measure of concern is “daily” or “frequent vaping of nicotine” by young people who have never smoked.

This is the at-risk group as they are exposed to potential new health risks from and nicotine dependence. The use of ‘current’, ‘past 12-month’ or ‘lifetime’ vaping exaggerate the prevalence of vaping as most use by young people who have never smoked is infrequent and short term. Many vape once or twice or very infrequently.

2. **It is also essential to consider vaping prevalence in conjunction with smoking prevalence.** If vaping is reducing smoking, that is beneficial for public health. An accurate risk assessment of vaping requires considering both the risks and benefits.

Frequency of vaping

Definitions of frequency:

- Daily vaping: vaping every day
- Frequent vaping: weekly or more frequently (UK) or 20 or more days in the last 30 days (US CDC)
- Lifetime vaping: ever vaping, “even a puff”
- Vaping in the past 12 months
- Current vaping: at least once in the past 30-days

Use of nicotine

Use of nicotine is important as it can lead to nicotine dependence. Only about half of young people who vape use nicotine.

In a study of NSW adolescents aged 14-17 years by Watts in 2023, “More than half of ever-vapers had used a vape that they knew contained nicotine (53%, n=123), while 20% (n=47) said they had not used a nicotine-containing vape and 27% (n=63) did not know whether they had used a vape containing nicotine or not”. [1]

In other studies, 30-50% report not using nicotine, or not knowing if they had used it or not. [2, 3]

Smoking status

Vaping by current or past smokers, even frequent vaping is likely to be beneficial to the extent that it reduces smoking.

In a 2022 study by Watts of 721 14-17-years-olds in NSW aged, 46% of current vapers were current or past smokers. [1]

In other studies, approximately 50-75% of adolescents who experiment with vaping are current or past smokers. [4-6]

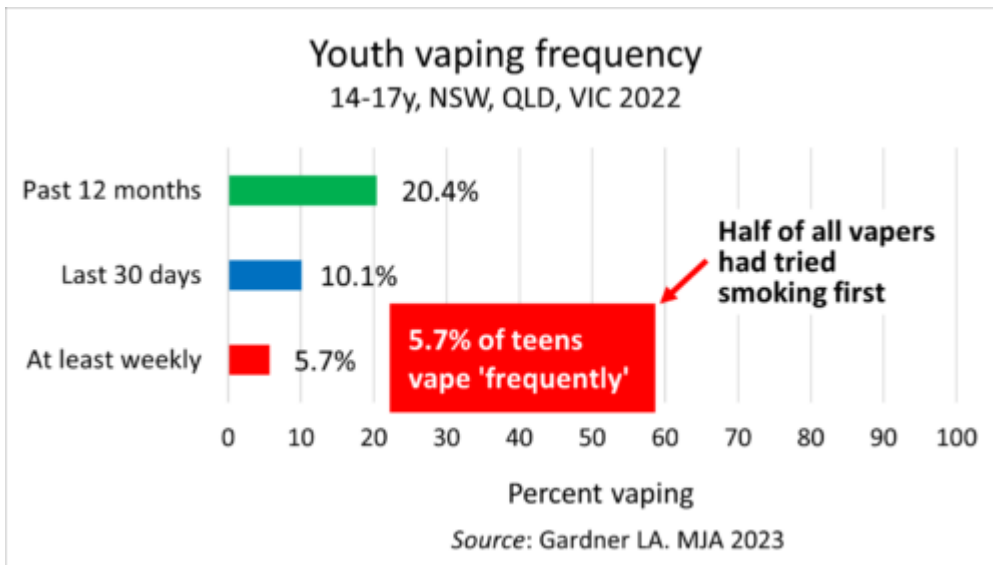
Vaping first may be protective against future smoking. There is growing evidence that those who vape first (before smoking) are less likely to smoke later, compared to those who smoke first. [4, 5, 7]

Frequent vaping of nicotine by never-smoking Australian youth

Two recent Australian studies have found that less than 2% of never-smoking 14-17-year-olds vaped nicotine frequently (on 6 or more days or weekly) in the last month). [1, 8]

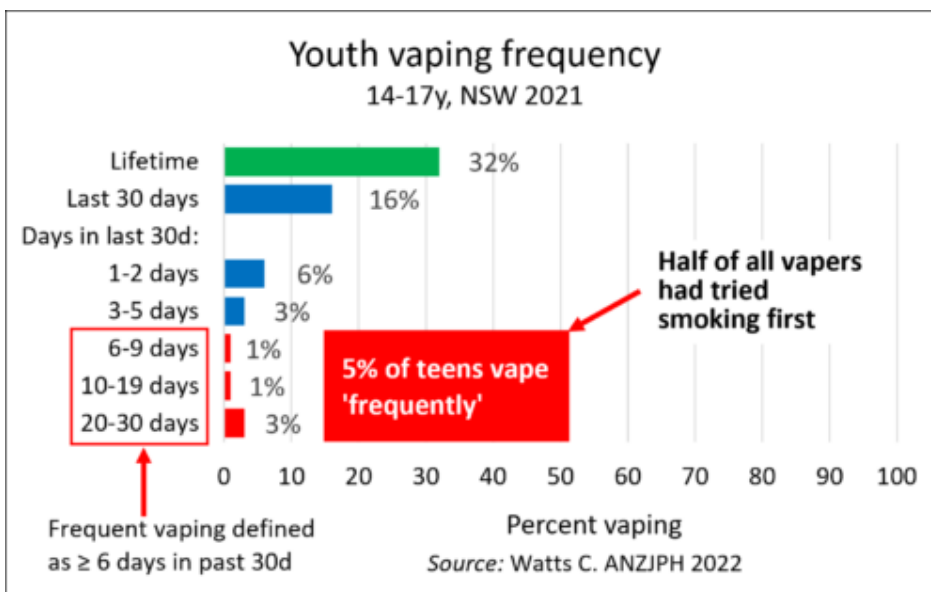
In a recent by Gardner of 4,445 14-17-year-olds in New South Wales, Queensland and Western Australia [8]

- 5.7% vaped frequently (6 days or more in the last month)
- Estimated 53% vaped nicotine (based on Watts)
- 54% of these were current or past smokers



In the study by Watts [1]

- 5% reported vaping at least weekly in the last month
- 53% vaped nicotine
- Estimated 54% of these were current or past smokers (based on Gardner)



Similar findings in other countries

Studies in other countries have also found that most young never-smokers who vape do so infrequently and transiently. Frequent vaping is very uncommon - typically 1-2% of never-smokers vape frequently. [9]

Frequent or daily vaping by never-smoking youth.

Country	Vaping frequency	Year	Never smokers	Current smokers	Age
England	≥ once weekly	2021	1%	61% of regular smokers (at least one cigarette per week) were regular vapers	11-15
	> once weekly	2022	0.5%	55.4% of current smokers (occasional or more frequent) were current vapers	11-17
	≥ 15 days in the last 30	2018	0.1%	13.4% of current smokers (at least 100 cigarettes in lifetime and smoked in past 30 days) vaped frequently	16-19
United States	≥ 20 days in the last 30	2018	0.4%	88.9% of frequent vapers were current (smoked in the past 30 days) or past smokers	9-19
		2019	2.1%	48.8% of frequent vapers had smoked >100 cigarettes	14-18
	≥ 15 days in the last 30	2018	1.5%	23.4% of current smokers (at least 100 cigarettes in lifetime and smoked in past 30 days) vaped frequently	16-19
Canada	≥ 15 days in the last 30	2018	0.6%	18% of current smokers (at least 100 cigarettes in lifetime and smoked in past 30 days) vaped frequently	16-19
New Zealand	Daily	2022	4.3%	86.6% of daily smokers vaped daily	15

Source [9]

ii) Health risks associated with e-cigarette products

Young people who vape will include

- (1) Current or former smokers
- (2) Never-smokers who would have been smokers if vaping was not available, and
- (3) Non-smokers who would never have used nicotine in the absence of vaping.

There is legitimate concern about group (3). Young people who have never smoked should not vape as this exposes them to toxic chemicals and unnecessary health risks. However, most youth vaping by non-smokers carries relatively minor health risks, especially as the dominant pattern is infrequent use.

Only frequent vaping over the longer-term has the potential to cause harm, and serious harmful effects to date are very rare.

Comparison to smoking

Vaping is not risk-free, but it is beyond reasonable doubt that it is far less harmful than smoking. [10-14]

Almost all the harm from smoking is caused by the 7,000 chemicals in smoke (including 70 cancer-causing agents) that are released by burning tobacco. [15]

In contrast, vapes heat a liquid into an aerosol without combustion, tobacco or smoke. The **aerosol** typically contains around 100-150 chemicals [16, 17], mostly at low or trace levels compared to smoke. [18-20]

The far lower dose of potentially toxic chemicals is likely to result in far less harm, based on the toxicological principle that “the dose that makes the poison”. [21]

The UK [Royal College of Physicians](#) [12] and [Public Health England](#) [10] have both independently estimated that vaping is at least **95% less harmful** than smoking, based on comprehensive reviews of the science. This is not meant to be a precise figure but aims to communicate the large difference in relative risk for smokers. This is based on:

Toxins	In the absence of tobacco combustion, almost all the toxic chemicals in smoke are absent from vapour. Those that are present occur in far lower doses than in tobacco smoke.
Toxins in the body	There are substantial reductions in toxins in the body fluids of smokers who switch to vaping. [22-24]
Health improvements	Studies of smokers who completely switched to vaping have shown improvements in asthma [25], chronic obstructive pulmonary disease (COPD) [26], blood pressure [27], muco-ciliary clearance [28], respiratory infections [29], lung function [30], respiratory symptoms [31, 32], cardiovascular markers [33, 34] and gum disease [35].
Cancer	The life-time cancer risk from vaping is estimated to be < 0.5% that of smoking. [36]
Mortality	There are no documented deaths so far from vaping nicotine but 8 million people die from cigarette smoking every year. Serious side effects of vaping are very rare.

Long-term use is highly likely to be far less harmful than smoking

The precise long-term health effects of vaping will not be known for decades. However, based on the number and levels of toxins present, it is highly likely that it will be considerably less harmful than tobacco smoke.

According to the UK Royal College of Physicians, [12]

“Although it is not possible to precisely quantify the long-term health risks associated with e-cigarettes, the available data suggest that they are unlikely to exceed 5% of those associated with smoked tobacco products, and may well be substantially lower than this figure”

In the absence of long-term data, modelling studies are a well-accepted way of estimating the impact of an intervention. **Numerous** modelling studies estimate that wider use of vaping nicotine will have a significant net public health **benefit** [37-40] even if vaping generated 20% of the harm of smoking which is very unlikely. [40]

No serious health effects are emerging in never-smoking vapers, although many have now vaped for many years.

As with any new product, it is possible that some harms may emerge over time so post-market surveillance should continue to monitor safety and detect any adverse effects.

However, in all likelihood the harms from long-term vaping are likely small, most probably considerably lower than for alcohol and most other drugs.

Health risks for young people

1. Never-smokers

Youth vaping by never-smokers carries relatively minor health risk, especially as the dominant pattern is infrequent and short-term use.

According to a recent review, [41]

“Most e-cigarette usage is infrequent and unlikely to increase a [young] person’s risk of negative health consequences”

It is implausible that vaping for even twenty years will cause significant harms. **Smokers** who **quit** before the age of 35 years (typically within 20 years of starting smoking) have a normal life expectancy and are very unlikely to have long-term health effects. [42]

2. Smokers or would-be smokers

As vaping is far less harmful than smoking, current smokers are likely to have significant health improvements if they switch to vaping, especially if they switch completely.

Young people who would have become smokers if vaping was not available are also likely to have better health outcomes.

Respiratory effects

Some young people have reported cough or wheeze from vaping in cross-sectional studies, but many young people who vape have also smoked tobacco so the significance of these findings is uncertain. [43, 44] However, there is no clear evidence that vaping causes “**functionally important**” **respiratory symptoms**. [45, 46]

Youth vaping is not linked with the onset of **asthma** (although smoking is). [47, 48]

Nicotine

Vaping can cause nicotine dependence in some young people who have never smoked. However, this is only in a small minority of cases. [49] Nicotine dependence can lead to withdrawal, causing short-term symptoms such as irritability, restlessness, anxiety, difficulty concentrating and depression. These symptoms are unpleasant but not serious. Nicotine dependence is mostly concentrated in young people who are current or past smokers.

High doses of nicotine can harm the brain in animal studies but extrapolation to humans is speculative. [50] The UK Committee on Toxicity [51] and an Australia review [52] examined the evidence and concluded that no data were available on direct effects of nicotine exposure in human adolescents.

Also, there is no long-term evidence of impaired brain function in the hundreds of millions of adults who smoked as adolescents and then stopped. [53]

Cigarette **smoking** has not been found to impair IQ [54], educational achievement [55] or cognitive abilities [56] later in life, so it is very unlikely that vaping will do so.

Nicotine itself represents minimal risk of serious harm in the doses commonly used in vaping. [10, 19]. Nicotine does not cause cancer [57] or lung disease [58] and it has only a minor role in cardiovascular disease. [59]

Beneficial effects of nicotine

There is some evidence that nicotine may in the short-term improve attention and memory [60] and cognitive function, [61] relieve anxiety and improve mood. [62] The report of the NSW Office of the Advocate for Children and Young People in 2023 found that vaping by young people for stress relief was common in NSW.[63]

Nicotine is especially beneficial for young people with ADHD, improving attention [64] and brain function. [65]

Other harms

Vaping nicotine does **NOT** cause seizures [66], pneumothorax (lung collapse) or the serious lung injury EVALI. [67] There is a very rare risk of burns from lithium-battery explosions, a risk from all devices that use these batteries, such as mobile phones and laptops.

Long-term risk

The precise long-term effects of vaping nicotine will not be fully known for decades. Effects from long-term vaping may include cardiovascular [68] and respiratory effects. [69]

Vaping is not a gateway to smoking

There is now good evidence that vaping is not a net gateway to youth smoking. In fact, vaping is reducing smoking rates overall in young people.

1. “Common liability”. Shared risk factors for vaping and smoking

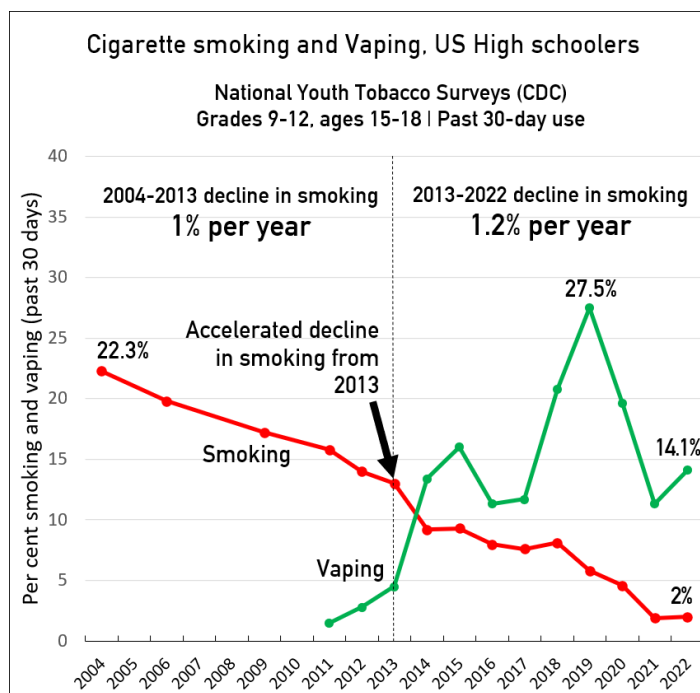
Studies show that young people who experiment with vaping are three times more likely to also try smoking. The most plausible explanation is that young people who do both share risk factors that lead to both behaviours (‘common liability’). [70]

Young people who experiment with vaping are different to kids who don’t vape. [71] Kids who try vaping are more likely to use other drugs, have friends who vape or smoke, have mental illness, parents who smoke, come from lower socio-economic backgrounds, have lower education etc. These ‘shared risk factors’ put them at risk of experimenting with both vaping and smoking. But this does not mean that vaping **caused** them to take up smoking.

Studies that allow for these differences between groups have found that the increased risk of smoking in teens who vape (compared to teens who don’t vape) dramatically reduces or disappears. [72, 73]

2. Accelerated decline in youth smoking

The increase in youth vaping has coincided with an accelerated decline in youth smoking in the UK [74], New Zealand [75] and the US [76, 77] (Figure below). This is the opposite of what would be expected if vaping was a significant gateway to smoking. Vaping may be a gateway to smoking for some young people, but this is outweighed by the much larger number who move from smoking to vaping. [78]



A 2023 study by Delnevo analysed youth smoking and vaping rates in the US from 3 large national surveys over a 30-year period from 1991-2022 and found that the decline in youth smoking rates accelerated after vaping became popular in 2013. [77] They concluded:

“Concerns about a potential rise in adolescent cigarette use following the introduction of e-cigarettes to the U.S. market in the early 2010s are not supported by the data. In fact, the emergence of e-cigarettes has coincided with the most rapid declines in cigarette use over the past thirty years”

3. Vaping diverts young people from smoking

Vaping and smoking are substitutes. Vaping is diverting some young people who would have otherwise smoked away from smoking. [79-82]

4. Vaping first (before smoking) reduces smoking uptake

There is growing evidence that teens who vape first (before smoking) are less likely to smoke later, compared to those who smoke first. [4-6] (Other studies have found no evidence that vaping first increases smoking uptake. [7, 83])

Reference (in Appendix): [Mendelsohn CP, Hall W. What are the harms of vaping in young people who have never smoked. Int J Drug Policy 2023](#)

iii) The impact of programs and services aimed at preventing uptake or continuing use of e-cigarettes

Flawed regulation

The high uptake of youth vaping is a result of the flawed regulatory model in NSW. The prescription-only model has created a thriving black market that supplies vaping products freely to underage users. The key to reducing youth use is introducing a tightly regulated consumer model in which nicotine vapes are sold as adult consumer products with strict age verification, by licensed retail outlets, like cigarettes and alcohol. [96] See later.

Prevention trials

The evidence from smoking and vaping prevention trials so far suggests that programs and services to prevent uptake of vaping have limited success and may have the unintended harmful consequence of discouraging adult smokers considering vaping as a quitting aid.

Prevention programs should consider the complex reasons young people vape. The most common reasons are curiosity and peer pressure. A considerable number of young people vape to regulate anxiety and mood and for social purposes. [63] However genetic liability [84] environmental, psychological and social causes e.g., peer group or parental smoking, play a role [85]. Developing a program to address these factors is complex.

A recent review of 14 studies of parental monitoring, 19 school-based studies and 6 community-based studies concluded [86]

“E-cigarette initiation prevention was observed with high perceived parental monitoring; however, the cross-sectional study designs precluded causal claims. There was promising but limited evidence that social-emotional skills curricula and peer leader”.

A US study tested the impact of an adolescent-targeted anti-vaping media public PSA (public service announcement) concluding that [87]

“adult smokers who viewed the PSA were less likely to consider e-cigarettes for smoking cessation, thus reducing acceptance of a potential cessation aid with growing empirical support. Sensationalized youth-oriented anti-vaping messages may have unintended public health consequences upon adult audiences.”

A systematic review and meta-analysis of 50 randomised controlled trials (RCTs) of school-based curricula for **smoking** prevention found

“no effect of school-based smoking prevention curricula with a follow-up of 1 year or less, but a 12% reduction in the onset of smoking when assessed over a longer period of follow-up”

“The only individual curricula types at longest follow-up [>12m] that showed a statistically significant result were social competence and combined social competence/social influence curricula”

“Information-only interventions” were not effective. “It is possible that students perceive information curricula as lectures by adults about substance misuse.”

A recent evaluation of a single-session school-based program in the US focussing on e-cigarette types, contents, marketing and advertising, health effects and nicotine addiction found some changes in attitude, although it is not known how these changes will affect long-term e-cigarette use [88]

“the curriculum was associated with several positive changes in high school students’ e-cigarettes knowledge, perceptions, refusal skills, and intentions”

2. NSW's current regulatory framework

The current prescription-only model in NSW and Australia generally has

1. Created a thriving black market controlled by criminal networks which sells illegal, unregulated vaping products
1. Created barriers to adult smokers to access legal, regulated supplies to quit smoking.
2. Failed to reduce youth vaping

Its effectiveness in preventing illegal supply

Many smokers and vapers report difficulty finding a doctor who will provide a prescription and cash-strapped vapers are unwilling to pay for a visit. [\[link\]](#) Less than 1% of doctors are publicly listed as nicotine prescribers [89].

Pharmacists are reporting very low sales and few are willing to stock vapes as the demand for legal products has almost dried up.

Consumers have rejected the prescription model. Only 8% of Australia's 1.3 million vapers have a prescription for nicotine. [90] Ninety two percent of supplies are purchased through illegal channels.

The demand for vaping products has created a large black market controlled by criminal networks. [91] There is growing evidence of gang turf wars, retail shop intimidation, fire-bombings and gang-related murders. [92, 93]

A massive well organised network of agents or 'traders' has been established to supply the Australian market. Some of this industry is run by established criminal networks that already import illicit tobacco. [\[link\]](#) Vapes are distributed along with chop chop and illicit cigarettes and other contraband through established channels.

Money raised from tobacco sales is laundered and used to fund other criminal activities. [94]

Most of the demand comes from adults, but illegal, unregulated vapes are freely sold to young people.

Illegal importation

An estimated 90 million vapes are illegally imported from China each year. [95] Illegal vapes are a low-risk, high-profit crime. Vapes that cost \$3 from a Chinese factory are sold for \$35 in Australia.

It is impossible to intercept more than a small number of illegal imports at the border, according to Rohan Pike, a former detective superintendent with the Australian Federal Police, who led the ABF's Tobacco Strike Team in 2015. "We have a huge border and not enough resources." [\[link\]](#)

Michael Outram, chief of the Australian Border Force, says the ABF is focussed on preventing the importation of illicit drugs, firearms, child pornography material and has admitted that vapes are not a priority. The ABF is under-resourced at the best of times, and no additional funding has been allocated for vape detection.

Mr Outram recently warned that "banning vapes at the border won't be enough to stamp out a rampant black market". [\[link\]](#) The ABF was already only managing to detect only a quarter of illicit drugs making their way into Australia, "even on a good day". [\[link\]](#)

Each year, 8 million shipping containers enter Australia. [\[link\]](#) Only 1-1.5 % are scanned. [\[link\]](#)

Members of the Australia's peak National Advisory Council on Alcohol and Other Drugs (ANACAD) recently wrote "Border control efforts with other illicit drugs is hugely costly with, typically, very little impact on the black market and virtually no impact on use", [\[link\]](#) and many Australian public health experts agree. [\[link\]](#)

Retail sale

Illegal vapes are freely available for sale to young people in NSW from hundreds of retail outlets, such as convenience stores, tobacconists, hairdressers, petrol stations, cafes and vape shops. They are also easily accessible on social media such as Snapchat, LinkedIn and Instagram. Uber drivers pull out price lists for young customers and sell vapes in transit.

NSW Health has had only minimal success in reducing illegal sales and prosecuting retailers. There are widespread anecdotal reports that illicit sales are being reported to NSW Health, but these reports are not acted on.

Over an 18-month period, from 1 January 2022 to 30 June 2023, NSW Health conducted over 5,000 inspections and seized around 369,000 nicotine vapes and e-liquids. [\[link\]](#) This is only a tiny fraction of the market.

“Only seven retailers in the state were prosecuted in the 2022-23 financial year, with only 20 retailers in total facing any type of punishment since January 1, 2020”. [\[link\]](#)

The cost of policing and prosecution are substantial and are unsustainable over the long term.

Potential harm from black market devices

The vast majority of vaping devices currently used by young people are illegal and unregulated. They do not comply with the TGO110 standards for quality and safety and all have high nicotine levels typically (mean 40mg/mL). [96]

As a result, young people who choose to experiment with vaping are exposed to higher risk than if they used regulated products. The high nicotine level can cause adverse effects in non-smokers, who can experience nausea, dizziness and collapse. There is also a greater risk of developing nicotine dependence from a high nicotine product. Black market products are deliberately mislabelled to appear to be nicotine-free to avoid interception by authorities.

In a regulated market, compliant products would meet higher quality, safety and labelling standards and there would be a range of nicotine strengths and correct labelling.

3. How NSW can work with the Federal Government to implement reforms on e-cigarette products

The Federal Government’s regulatory model has failed to meet its stated goals and the proposed reforms are likely to make them far worse. A totally different regulatory model is required (see below).

Prohibition has not worked in the past for alcohol and illicit drugs and won’t work for vaping products. The only way to eliminate a black market for a popular product is to replace it with a legal, regulated one.

Professor Nicole Lee from the National Drug Research Institute at Curtin University wrote in *The Conversation*, "banning or restricting vaping could actually do more harm than good. [\[link\]](#) Banning drugs doesn’t stop people using them. Prohibition ...drives drugs underground and creates a black market or increasing harms as people switch to other drugs, which are often more dangerous."

Deakin University criminologist Dr James Martin said in the *Herald Sun*. "When there’s demand that strong there will always be supply that will emerge". [\[link\]](#)

The Health Minister’s proposed crackdown is likely to only make the situation worse. In May 2023, 44 leading Australian and New Zealand tobacco control and addiction experts wrote an open letter to the Minister providing the same information and asking him to reconsider his proposal. [\[link\]](#) The experts explained that the likely outcomes of the proposed changes are

1. The black-market will continue to import and supply unregulated and potentially unsafe nicotine vaping products to adults and young people
2. People who smoke will have greater difficulty legally accessing nicotine for vaping, a far safer alternative
3. Some former smokers who currently vape will return to smoking
4. Uptake of the prescription model will continue to be low
5. Smoking rates will decline more slowly
6. Increased smoking-related death and disease will result, and
7. The model will ultimately fail.

In emails released under Freedom of Information, experts from the Minister’s advisory body, the Australian National Advisory Council on Alcohol and Other Drugs (ANACAD) explained that [\[link\]](#)

“Further restrictions will likely only make the problem worse and we’ll end up criminalising more people. Regulation that is too severe risks making smoking more attractive”

“Doubling down on regulation and enforcement (despite the problem being a failure of regulation in the first place” is the wrong response

“Further restrictions will likely only make the problem worse and we’ll end up criminalising more people”

Recommended regulatory approach

The NSW government should shift its focus to ensure access to regulated nicotine vaping products for adult smokers for harm reduction, support regulatory controls in the community, regulate and approve products checked for quality and safety and improve public education.

Regulation should strike a balance between making high quality nicotine vaping products readily available to help addicted adult smokers quit while also reducing access and appeal to young people. The preferred approach is:

- Classify low concentrations of nicotine as consumer products
- A tightly regulated consumer model in which nicotine vapes are sold as adult consumer products by licensed retail outlets, like cigarettes and alcohol. [97] Vapes should be available from a wide range of outlets, so they are at least as accessible as combustible cigarettes.
- Strict age verification at the time of purchase, with harsh penalties for breaches and loss of retail licence.
- Regulations proportionate to risk and reflecting the lower harms of vaping relative to smoking. [98]

- Regulated products would be compliant with quality and safety standards and an appropriate level of taxation could be applied.

This would bring NSW into line with other western countries.

Under this model, the black-market would become less profitable and illicit sales would diminish over time.

This model was preferred by 88% of Australian adults in a recent market research study. [99]

Consumer product classification

The state Parliament should classify low concentrations of nicotine liquid as a consumer product like cigarettes by amending the state Poisons Standard (explained later).

Disposables

A ban on single-use vapes has been proposed to reduce youth vaping. However, the disposables used by teens are already banned black market devices and a further ban is unlikely to have any effect on long-term supply and use. As vaping is diverting youth away from smoking, a disposable ban may also increase smoking. [79-81]

Disposable vapes are also a popular transition device for adult smokers, especially those with severe mental illness, homelessness, learning disabilities, hospital inpatients and older smokers who struggle with more complex devices.

A ban would remove an effective and popular quitting aid for vulnerable populations from the legal market.

Restricting the sale of disposables to adult-only stores would reduce youth access without preventing access by smokers.

Disposable users should be encouraged to transition to pod or open devices once quitting is firmly established to reduce the environmental impact.

Flavours

Flavours play an important role in the initiation of vaping for adult smokers [100] and are associated with more quit attempts and higher quit rates. [101, 102]

- Banning flavours makes vaping less attractive as a quitting aid and increases smoking in young people [103] and adults. [104]
- Flavour bans lead to increased illicit supplies and dangerous home mixing. [105]
- However, flavours with known harms should be banned. [19]

Flavours are not the primary reason for youth experimentation with vaping. The main reasons are curiosity and peer pressure, followed by liking the flavours. [106-108]

Nicotine concentration

The proposed nicotine limit of 20mg/mL (2%) is too low to satisfy more dependent smokers. Higher nicotine concentrations are more effective for quitting [109-111] and a nicotine concentration of at least 50 mg/ml (5%) is needed to match a cigarette. [112-114] Higher nicotine levels are in fact safer [115] -- when the nicotine concentration is too low, vapers compensate by more and larger puffs and inhale more chemicals. [116, 117]

Taxation

Taxation of vapes should be proportionate to risk. Higher prices reduce vaping but increase smoking in youth [118, 119], young adults [120] and adults [121, 122]. Taxation at the level of the GST would bring Australia into line with the UK and New Zealand.

Reducing appeal to young people

Strategies to reduce youth vaping include [9]

- Legal vaping products sold only from licensed retail outlets
- Strict age verification at the time of sale

- A third-party age verification service for online purchases and on delivery
- Advertising restricted and regulated to prevent marketing to adolescents
- Substantially increased fines and loss of licence for underage sales
- Banning flavour names, images and packaging which appeal to young people
- Education programs for young people should frame vaping as an adult quitting aid and provide accurate information about the absolute and relative risks of vaping and smoking
- A proportionally higher taxation on disposable devices may reduce the affordability of these products for young people. However, the vast majority are sold on the black market and are not currently taxed.

Reference (in Appendix): [Mendelsohn CP, Wodak A, Hall W. How should nicotine vaping be regulated in Australia? Drug and Alcohol Review. April 2023](#)

NSW can legislate to change the Poison Standard

All states and territories can adopt the current Therapeutic Goods Administration's [Poisons Standard](#) in whole, or in part.

Currently, nicotine is both a schedule 4 and schedule 7 poison, so nicotine e-liquids are illegal without a doctor's prescription. Perversely, only nicotine when prepared and packaged for 'smoking' is legal in Australia.

In New South Wales, the *Poisons Standard* is given effect by the [Medicines, Poisons and Therapeutic Goods Act 2022](#).

Should the NSW State Government make a policy decision to schedule nicotine differently to the Federal Poisons Standard, an amendment bill must be passed through parliament to amend the act.

A Poisons and Therapeutic Goods Amendment would include a special provision to omit nicotine from Schedule 7 of the poisons standard when prepared and packaged for use in an e-cigarette. (See the [Poisons and Therapeutic Goods Amendment \(Designated Non-ARTG Products\) Regulation 2016](#) where special provisions were made for certain Designated Non-ARTG Products.)

The Medicines, Poisons and Therapeutic Goods Act 2022 includes a specific provision for the modification of the NSW Poisons standard (Chapter 1, Section 6) under the Act.

Following this, a new legal framework would be created to govern all the various aspects of vaping products (i.e., product quality, safety, age restrictions, labelling, packaging). Regulatory oversight could either be given to an existing agency or a new government authority dedicated to the regulation of vaping products.

4. Other related matters

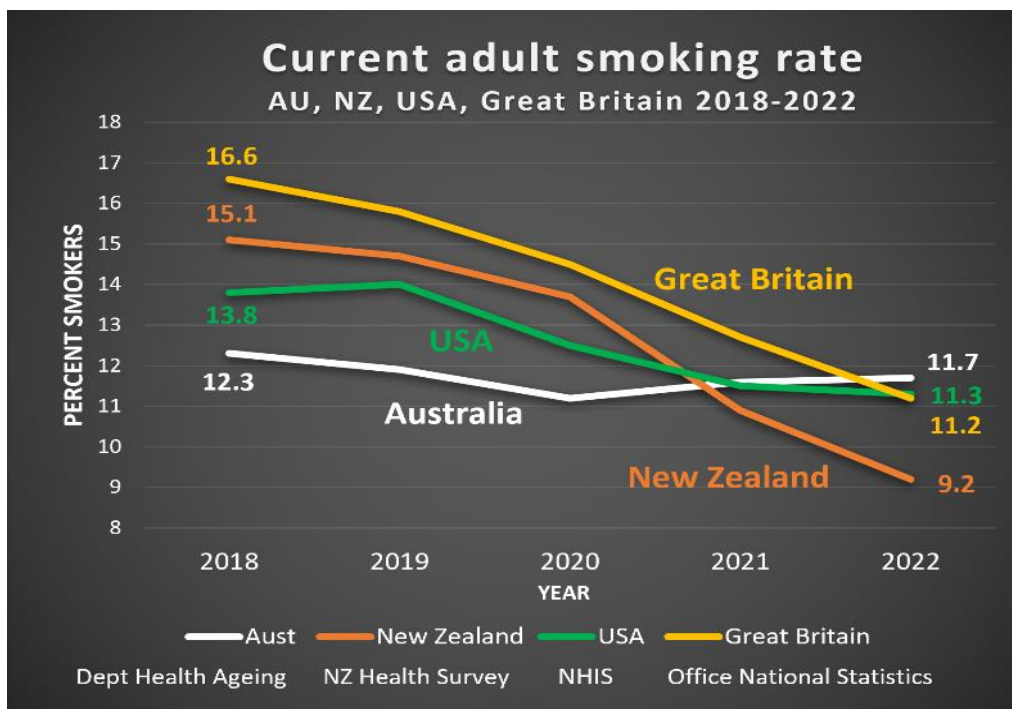
The key issue for policy-makers is the net effect of vaping on public health. This inquiry is focussed on the harms of vaping, but a formal risk assessment requires consideration of the benefits. There is strong evidence that vaping is displacing smoking in youth and adults and is improving public health overall.

Vaping is displacing smoking at a population level

There is now high quality evidence that vaping is more effective in helping smokers to quit than nicotine replacement therapy and is at least as effective as the most effective non-nicotine product (varenicline).

This has been demonstrated in reviews of high quality randomised controlled trials [123-125] and is supported by observational studies [126-128], population studies [129-131], declines in national smoking rates [132-134] and in the England Stop Smoking Service [10]. Vaping is also the only quitting aid to assist smokers with no intention of quitting ('accidental quitters'). [109, 135, 136]

Because vaping is the most popular and most effective quitting aid it is displacing smoking at a population level. Declines are faster in countries where vaping is readily available. Over the last 4 years, the adult smoking rate in Australia declined by only 5% [137], Over the same period, smoking rates fell by 39% in New Zealand [133], 33% in Great Britain [132] and 18% in the United States [134].

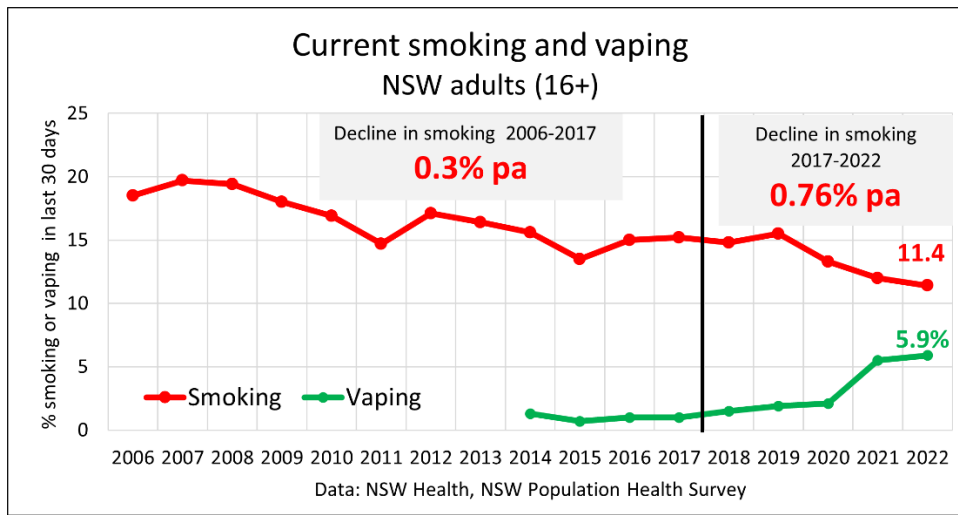


In New Zealand, the adult smoking rate fell by an unprecedented 33% from 2020-2022 after the New Zealand Parliament legalised and regulated vaping in August 2020. [133] During the same two-year period, the smoking rate in Australia increased by 4.5%. [137]

Vaping is not the only cause for this rapid decline in smoking, but it appears to be making a significant contribution.

Vaping is displacing smoking in NSW

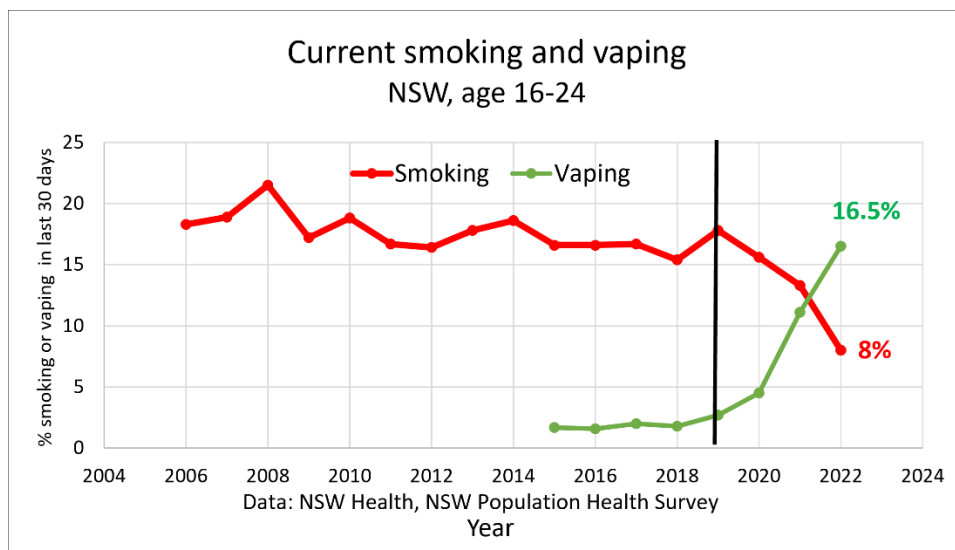
According to the NSW Population Health Survey, adult smoking rates have declined more than twice as rapidly since vaping became popular from around 2017. [138] This is consistent with vaping displacing smoking.



Vaping is accelerating smoking decline in young adults

There is community concern about the widespread use of vaping by young adults. According to the NSW Population Health Survey, the 16-24 year age group had the highest vaping rate in NSW in 2022 of 16.5%. (25-34y: 10.4% | 35-44y: 5.3% | 45-54y: 3.2% | 55-64y: 2.0% | 65-74y: 0.4% | 75+y: 0.2%) [138]

However, the Survey shows that as vaping rates have increased smoking is declining faster in 16-24-year-olds than in any other age group. Vaping is likely to be displacing smoking in this population.

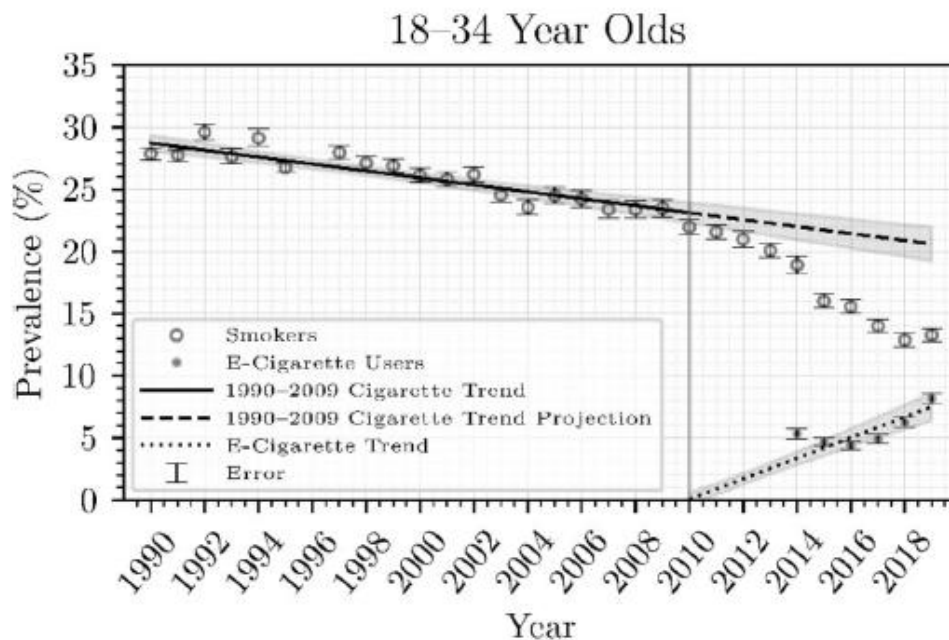


The association of a rapid decline in smoking in young adults with high vaping rates is also seen nationally. A 2023 report for the Department of Health and Aged Care found [137]

“The fastest decline in smoking rates over the same period was in young adults. There was a 21% decline in smoking in the 18-24 year age group (vaping rate 19.8%) and 17% decline in the 25-34 year age group (vaping rate 17.4%)”

Similar findings overseas

A US study found that the decline in smoking in the 18-34 year age group was faster than in any other age group and that “This age cohort also had the highest e-cigarette use prevalence”. [82]



The net effect is that vaping by young adults is displacing smoking and is beneficial to public health.

Misinformation on vaping from NSW Health

NSW Health has repeatedly provided alarmist and inaccurate information to the public on vaping. It is wrong for a government department to provide misinformation to the public and this will undermine the public's confidence in future health messaging. Here are several examples.

NSW Health's "Do you know what you are vaping campaign?"

This campaign is alarmist, provides many misleading and inaccurate messages and should be withdrawn.

It may also discourage adult smokers who are otherwise unable to quit from switching to vaping, a far safer alternative.

Some examples on [this page](#) alone on the NSW Health website are:

Young people who vape are 3 times as likely to take up smoking cigarettes

Comment. True but misleading. This falsely implies that vaping causes young people to take up smoking. Young people who try vaping are more likely to later try smoking, but there is no good evidence for causation. A more likely explanation is that young people who engage in one form of risky behaviour, such as vaping, are more likely to engage in other risky behaviours such as smoking, hazardous alcohol consumption and illicit drug use ("common liability" hypothesis). [70]

Please refer to earlier discussion of the gateway theory.

Vapes can leave young people at increased risk of depression and anxiety

Comment. People with depression and anxiety are more likely to vape to self-medicate, but there is no evidence that vaping harms mental health. It is well established that nicotine reduces anxiety and relieves depression. [62]

Vaping has been linked to lung disease

Comment. This is deliberately misleading. It implies that vaping nicotine caused EVALI, the serious outbreak of lung disease in North America in 2019-20. EVALI was caused by vaping illicit THC oils adulterated with a cutting agent, Vitamin E Acetate. [67] Not a single case of EVALI has been linked to nicotine vaping.

There is no clear evidence that vaping causes "functionally important" respiratory symptoms. [45, 46] Youth vaping is not linked with the onset of asthma (although smoking is). [47, 48].

Indeed, adult smokers who switch to vaping show improvements in asthma [25], chronic obstructive pulmonary disease (COPD) [26], muco-ciliary clearance [28], respiratory infections [29], lung function [30] and respiratory symptoms [31, 32].

Vapes can cause long-lasting damaging effects on the brain

Comment. High doses of nicotine can harm the brain in animal studies but there is no clear evidence of such harm in humans. [50] Cigarette smoking has not been found to impair IQ [54], educational achievement [55] or cognitive abilities [56] later in life, so it is very unlikely that vaping will do so.

Vapes can contain the same harmful chemicals found in cleaning products, nail polish remover, weed killer and bug spray

Comment. This is alarmist, deliberately misleading and very unscientific. Just because a chemical is present in a cleaning product does not necessarily mean that chemical it is harmful.

Harm also depends on the dose of the chemical present. Trace levels of toxic chemicals below the harm threshold are not harmful.

Website misinformation

On the NSW Health website, [here](#)

“Currently there is not enough clinical evidence that support the use of e-cigarettes to help smokers to quit”

Comment. There is now high quality that vaping is more effective in helping smokers to quit than nicotine replacement therapy and is at least as effective as the most effective non-nicotine product (varenicline).

This has been demonstrated in reviews of randomised controlled trials [123-125] and is supported by observational studies [126-128], population studies [129-131], declines in national smoking rates [132-134] and in the England Stop Smoking Service [10].

“E-cigarettes are not risk free. They may expose users and bystanders to chemicals and toxins such as propylene glycol, glycerol or ethylene glycol that cause adverse health effects, and may increase the risk of developing cardiovascular, cancer and respiratory diseases. E-liquids or vapour can also contain potentially harmful chemicals which are not present in smoke from tobacco cigarettes.”

Comment. Correct but misleading. This exaggerates the risk of vaping. Adverse effects from vaping are generally mild and short term and serious harm is rare.

In exaggerating the risks of vaping, this advice may discourage smokers from switching to vaping to quit smoking and may lead to serious health consequences. It is well established that vaping reduces the risk of “developing cardiovascular, cancer and respiratory diseases” in smokers who switch.

It exaggerates concerns about the chemicals in vapour. Almost all the harm from smoking is caused by the 7,000 chemicals in smoke (including 70 cancer-causing agents) that are released by burning tobacco. [15] In contrast, vapes heat a liquid into an aerosol without combustion, tobacco or smoke. The aerosol **typically contains around 100-150 chemicals** [16, 17], mostly at low or trace levels compared to cigarette smoke. [18-20]

The far lower dose of potentially toxic chemicals is likely to cause far less harm, based on the toxicological principle that “the dose that makes the poison”. [21]

According to a review by Public Health England there is no evidence so far of harm from the chemicals in vapour which are not present in tobacco smoke. [19]

Media release, Crackdown on illegal vape sellers in NSW

[\[link\]](#)

“vaping is a gateway to smoking for young people”

Comment. No it isn't. See earlier discussion.

“There is an epidemic of vaping among young people”

Comment. As outlined earlier, less than 2% of 14-17-year-olds vape nicotine ‘frequently’ but have never smoked.

“Increasing harms from vaping”

Comment. See earlier. Adverse effects from vaping are generally mild and serious harms are very rare. Teens being hospitalized for nicotine poisoning have simply puffed too much on a vape and got dizzy, nauseous and perhaps collapsed. No serious harms have been reported.

Overall, the benefits of vaping in young people outweigh the risks at a population level. Most of the benefit comes from diverting young people away from deadly smoking and from helping current smokers to quit.

“Tested devices contained toxic chemicals”

Comment. Thirty devices tested at the University of Wollongong had toxic chemicals. This is meaningless without a statement of the dose of those chemicals. There are toxic chemicals in the air we breathe and the water we drink. They are only of concern to health if they are above a minimum threshold. We have known for centuries that “the dose makes the poison”.

“nicotine can cause changes to brain development, impaired learning and memory, and may worsen stress, depression and anxiety”

Comment. There is no evidence for these claims and there is evidence of benefits from nicotine. See earlier.

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Attachments included with submission

C Mendelsohn & W Hall, '[What are the harms of vaping in young people who have never smoked?](#)', International Journal of Drug Policy, vol 117, 104064, July 2023.

C Mendelsohn, A Wodak & W Hall, '[How should nicotine vaping be regulated in Australia?](#)', Drug Alcohol Review, vol 42, issue 5, July 2023.

C Mendelsohn, A Wodak, W Hall & R Borland, '[Evidence review of nicotine vaping. Recommendations for regulation in Australia](#)', October 2023