Vaping - An inquiry into reducing rates of e-cigarette use in Queensland

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Queensland Youth Policy Collective

Submission to the Health and Environment Committee, Queensland Parliament

Vaping – an inquiry into reducing rates of e-cigarette use in Queensland

5 May 2023

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Introduction

The Queensland Youth Policy Collective

The Queensland Youth Policy Collective was founded three years ago and has approximately forty active members from across Queensland. We are non-partisan and comprised of young people who want to contribute evidence-based, youth led perspectives in public debate, particularly in the fields of human rights, climate change and youth justice. Many of us are university students, lawyers or policy makers. We have submitted over twenty submissions to-date and have been quoted in parliament, in committee reports and by media.

Our position on e-cigarette regulation

This submission was prepared by seven Queensland Youth Policy Collective members, each of whom vigorously opposes the use of e-cigarettes. In our anecdotal experience, while the narrative seems to be that smoking vapes was driven by young people, a majority of young people vehemently oppose e-cigarettes. This submission seeks to give voice to that silent majority by arguing for the increased regulation or banning of these products on the basis that e-cigarettes are harmful to health, harmful to young people in particular and damage the environment.

A note on terminology

This submission does not use the term 'vaping'. In our opinion, the term vaping shies away from the similarities between e-cigarette use and cigarette use and is misleading. We strongly recommend that the Queensland government also adopt similar terminology: smoking vapes or e-cigarettes is preferred as it better communicates the health dangers of these products.

Queensland should lead the way against e-cigarette use in the Commonwealth

As you would be aware on 1 May 2023 the Commonwealth Government announced that it intends to ban the importation of non-prescription vaping products, including that which does not contain nicotine. Minimum standards for e-cigarettes will be introduced – including restring flavours, colours and other ingredients – and e-cigarette products will require pharmaceutical-like packaging. Their announcement also included an increase on the tobacco tax and additional funding for quit programs and a public health information campaign. All single-use, disposable vapes will be banned. However, as has broadly been missed by media reporting, this cannot be achieved without the co-operation of the states and territories due to, among other things, the powers vested in the Commonwealth and State governments. We implore the Queensland Government to take a strong stance against the use of e-cigarettes and lead the states in territories in banning non-prescription e-cigarettes from being sold and produced in Queensland.

Young people and smoking vapes

Smoking using vapes is a growing health danger to Queensland youth

In 2016, 2.8% of Australians aged 18-24 were current smokers of vapes.[1] In 2019, 5.3% of Australians aged 18-24 were current smokers of vapes.

If the number doubles again up to 2022, **over 10% of 18-24 year-olds are smokers of vapes**.

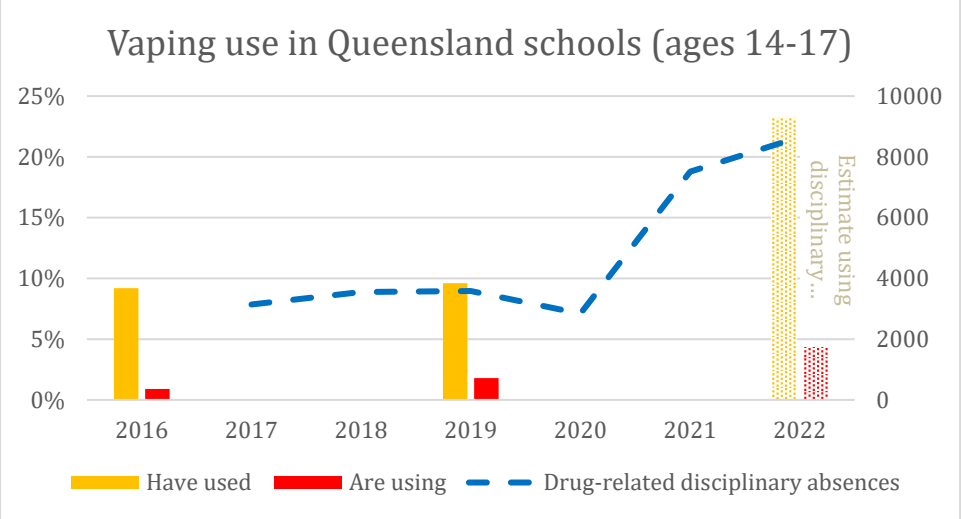
Smoking using vapes is widespread in Queensland schools

Smoking of vapes has become a significant problem in Queensland schools, despite the prohibition on sales of vapes to children. Anecdotal reports of the issue are common, but analysis of the (limited) data available also supports those reports.

The latest comprehensive dataset from the Australian Institute of Health and Welfare is from 2019. By that stage, 1.8%, or about 1-in-50, of Australian children aged 14-17 were reported as current smokers using vapes.

However, that data is out of date. More recent data from the Queensland Department of Education shows a dramatic rise in disciplinary absences for drug-related issues, which the Department says can primarily be attributed to possession of vapes and e-cigarettes.[2]

If the approximately 2.5 times increase in disciplinary absences between 2019 and 2022 reflects the increase in smoking using vapes over that period,[3] QYPC estimates that **more than 20% of students have tried or used vapes, and about 5% of students are current smokers of vapes**.



Source: AIHW National Drug Strategy Household Survey 2019 (data tables 2.19 and 2.24); Department of Education school absences data; QYPC analysis.

[1] AIHW National Drug Strategy Household Survey 2019 (data tables 2.19 and 2.24). Note that some reports have interpreted Figure 2.4 of the Survey report as showing the prevalence of vaping amongst the population, but that Figure shows the proportion of *smokers* who vape, not the proportion of all people. ABS data from 2020-21 suggests that 7.6% of 15-17 year olds had vaped at least once, but the ABS notes that figure is likely under-reported.

[2] See statements reported in "Drug-related suspensions in Queensland state schools double, driven by vaping, says department" *ABC News Online* <https://www.abc.net.au/news/2023-03-23/school-students-suspended-for-vaping/102132046> (accessed 12 April 2023).

[3] Given other drug-related issues must comprise some of those disciplinary absences during the period 2017-2022 for which data is available, the increase in vaping is likely of an even higher magnitude than 2.5 times. If it was double that magnitude, the current prevalence of vaping in 14-17 year olds would be closer to 10%.

Approaches being taken in Queensland schools to discourage uptake and use of e-cigarettes

Vapes are banned in Queensland schools, and various methods (including bag checks) have been deployed to restrict smoking of vapes at schools. However, it appears that current approaches are inadequate.

Some control methods that have been attempted include:

- deploying "vape detectors" in bathrooms;
- limiting bathroom breaks with passes;
- police liaison and health briefings to students; and
- adding relevant health information to curriculum (eg biology classes on vaping-induced health conditions).

There has been significantly less widespread social education campaigning by government in relation to the dangers of vaping compared with the historical campaigns which were very successful in reducing cigarette smoking. Current campaigns, such as the Queensland Government "Vape Truths" campaign, have yet to deploy the graphic health messaging used for cigarette smoking. Where vaping represents a similar level of health danger, a similar level of public messaging is appropriate.

The management of schools and the management of dangerous substances are both **core State responsibilities**, and **the Queensland Government should act now to protect the health of vulnerable children** without waiting for other States, Territories or the Commonwealth.

Environmental impacts

Consideration of waste management and environmental impacts of e-cigarette products

The growing use of e-cigarettes poses a potential environmental threat. While the environmental harms from tobacco have been known for decades, research analysing the environmental impacts of e-cigarettes is lacking. It is widely understood that cigarette butts are one of the most abundant forms of pollution. They are difficult to break down and release harmful chemicals into the ground. However, Clean Up Australia's latest National Rubbish Report[4] reveals cigarette butts are no longer the most commonly littered item - soft plastics are now ranked number one. This begs the question: are vapes more environmentally friendly than cigarettes?

1. Waste

The literature suggests that E-cigarettes are just as, if not more, environmentally harmful than traditional cigarettes.[5] Three significant forms of waste stem from the use of e-cigarettes: plastic waste,electronic waste and hazardous chemical waste.[6] Firstly, most e-cigarettes are single use, and function with plastic pods which are not biodegradable and difficult to recycle. Secondly, most e-cigarettes are not disposed of through designated electronic waste facilities, but instead are mainly thrown away with general waste. The circuit boards and lithium-ion batteries required to make vapes work are also detrimental to the environment. As the batteries degrade, their components begin to breakdown, and leach into the environment. Further, the batteries placed in general waste pose explosion and fire risks. Thirdly, most vaping products contain nicotine, which is listed by the US Environmental Protection Agency (EPA) as an acute hazardous waste.[7]

[4] Clean Up Australia, National Rubbish Report 2022 (Report, February 2023) 9 ,<https://www.cleanup.org.au/rubbish-report>.

[5]

[6] Jérémie Pourchez, Clément Mercier and Valérie Forest, 'From Smoking to Vaping: A New Environmental Threat'

[7] Yogi Hale Hendlin, 'Alert: Public Health Implications of Electronic Cigarette Waste' (2018) 108(11) *Am J Public Health* 1489.

2. Manufacturing

The production of lithium-ion batteries used in vaping products requires the extraction and processing of lithium, which can cause significant negative impacts on the environment. Lithium is a naturally occurring metal that is present in most batteries. In order to obtain lithium, it must be mined by pumping large amounts of water into rock or brine to dissolve the metal. The mining process can therefore cause water pollution, water shortages, soil degradation and can contribute to ecosystem destruction. Lithium mining can displace native wildlife by destroying habitats, particularly in areas of high biodiversity. Furthermore, lithium is often mined on traditional land. This is particularly concerning as Australia is the world's largest lithium supplier.[8] The Olkola Aboriginal Corporation, for example, have recently endured a lengthy legal battle to prohibit lithium mining on sacred land in Cape York.[9]

3. Disposal and Recycling

Online vape stores often provide consumers with information about how to correctly dispose of a vape. This information however, is often generic as regulations governing vape recycling and disposal varies significantly across jurisdictions. The disposal process involves dismantling the vape through a series of complex steps and is likely only to be done by a few consumers. Additionally, not all vapes can be easily disassembled, making it difficult to dispose of it correctly. Information on disposal provided usually encompasses several key steps:

a. Dismantling the vape into separate components;

b. Removing the battery, if possible; and

c. Rising out the liquid. This should never be poured down the drain.[10]

In Queensland, it is unclear whether local councils accept vapes in their e-waste collections. Often, many councils do not due to concerns about hazardous waste and the potential leaching of battery acid. The Battery Stewardship Council, a non-for-profit organisation which provides free battery recycling across Australia,[11] does not directly accept e-waste, including vapes, for recycling and disposal.

4. Recommendations

Urgent regulation and legal clarity in Queensland is required to tackle the emerging environmental threat caused by the use of vaping products. It is recommended that the sale of vaping products should be permitted, but strict limitations must be enforced.

Recommendation 1: The sale of vaping products that prevent removal of the lithium battery should be banned

Recommendation 2: A stewardship scheme for vaping products should be established to manage disposal

Recommendation 3: Collection bins for used vaping products should be available at major hot spots, including tobacconists, universities, pharmacies and supermarkets

[8] United States Geological Survey, Mineral Commodity Summaries 2022 - Lithium (Report, January 2022) 2.

[9] James Norman, 'Native Title and Mining Leases', The Saturday Paper (online, 21 April 2018) <https://www.thesaturdaypaper.com.au/news/indigenous-affairs/2018/04/21/native-title-and-mining-leases/15242328006122#hrd>.

[10] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/litter/vaping-device-use-and-recovery-systems.pdf?la=en&hash=1146A541D489CDD6C5B7D3E93A746CBEC678DFB6

[11] *https://www.dcceew.gov.au/environment/protection/waste/publications/battery-stewardship-council*

Recommendation 4: A refund scheme should be introduced at recycling facilities

Recommendation 5: Public awareness about collection bins and drop-off sites should be driven through advertising especially on social media platforms, to target the younger generation.

Recommendation 6: A fine for dangerous littering should be introduced to deter consumers from disposing of vaping products incorrectly

Health risks of smoking vapes

Risks of smoking harmful chemicals, including nicotine, to individuals, communities, and the health system

Vaping has gained popularity in recent years, especially among young people, including school age students. Vaping has been positioned as a less harmful alternative to smoking traditional cigarettes, with nicotine e-cigarettes (otherwise known as vapes) available by prescription in Queensland to assist smokers transition off cigarettes. However, despite this perception, vaping presents dangerous risks to individuals, communities, and the health system.

One of the primary risks of vaping is exposure to harmful chemicals. Most notably, some vapes contain nicotine, which is highly addictive and can lead to dependence and addiction[12]. Further, nicotine exposure can harm the developing brain of a young person up until the age of 25[13]. Whilst nicotine vapes are theoretically only available via prescription for individuals seeking to cease smoking, there is strong evidence indicating that there are minimal barriers preventing individuals without prescriptions, including minors from obtaining nicotine vapes.[14]

In addition, vapes contain ingredients, such as propylene glycol and glycerin, which can worsen asthma symptoms[15]. Other ingredients in vapes which can present a health risk, including:

- Formaldehyde, which is compound created when propylene glycol and glycerin is heated that is absorbed by the lungs and can be toxic;
- Acrolein, which is a compound made by glycerin is heated and car irritate the respiratory tract;
- Benzene, which is a colourless, sweet-smelling organic compound that can irritate the lungs;
- Diactetyl, which is a good additive found in some vaping liquids and has been linked to bronchiolitis and popcorn lung (bronchiolitis obliterans); and
- Lead, nickel, tin or other heavy metals which help heat the vaping liquid and small amounts of these metals can be aerosolised and inhaled.[16]

The mixture of chemicals inhaled through vaping can cause inflammation and damage to the respiratory system and irritate lungs and airways (source). Whilst research into the long-term effects of vaping are still in its early stages, the use of vapes have been linked to various health issues such as cardiovascular

[12] Surgeon General. (2018). Surgeon General's Advisory on E-cigarette Use Among Youth. Retrieved from https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf. Pg. 1.
[13] Ibid, pg. 1.
[14] Davey, M., & Rose, T. (2022). Australian government to crack down on nicotine e-cigarettes as rates of teen vaping skyrocket.
[15] Allegy & Asthma Network. (2021). Ask the Allergist: Secondhand Smoking and Vaping – Risky Business for People with Asthma. Retrieved from https://allergyasthmanetwork.org/news/ask-allergist-secondhand-smoking/
[16] Ibid.

disease[17] and respiratory diseases[18] such as asthma[19]and chronic obstructive pulmonary disease[20], particularly in adolescents[21]. The effects of these vapes and the chemicals can be severe indicating that vapes are not a harmless alternative to traditional cigarettes, particularly those with pre-existing respiratory conditions.

Moreover, vaping is not just a health risk for individuals, but it can also have an impact on communities. The use of e-cigarettes in public spaces can lead to exposure to second-hand vapor, which can be harmful to others, particularly children, pregnant women, and individuals with respiratory problems[22]. The aerosol produced by vapes can lead to irritation of the eyes, nose, and throat, as well as coughing, wheezing, and shortness of breath[23]. In addition, exposure to the chemicals in e-cigarette aerosol may contribute to inflammation in the lungs, which can exacerbate symptoms of respiratory illnesses such as asthma and COPD. The ultrafine particles in the aerosol can penetrate deep into the lungs, causing respiratory problems, and aggravating existing conditions[24].

Exposure to second-hand vapor can also have a significant impact on communities, particularly in public spaces, where it can be difficult to control. Non-smokers who are exposed to second-hand vapor may experience adverse health effects, such as increased risk of bronchitic symptoms and shortness of breath[25]. Moreover, exposure to second-hand vapor can be particularly harmful to vulnerable populations such as children and pregnant women, who may be more sensitive to the effects of the chemicals in the aerosol[26].

Furthermore, the widespread use of e-cigarettes can also have an impact on the health system. The long-term health effects of vaping are still unknown, and as more people turn to vapes, the potential for health problems and related costs will likely increase[27]. This can place a strain on healthcare resources, leading to increased healthcare costs and reduced access to care.

Exposure to second-hand vapor can also have a significant impact on communities, particularly in public spaces, where it can be difficult to control. Non-smokers who are exposed to second-hand vapor may experience adverse health effects, leading to increased healthcare costs and reduced quality of life. Moreover, exposure to second-hand vapor can be particularly harmful to vulnerable populations such as children and pregnant women, who may be more sensitive to the effects of the chemicals in the aerosol.

[17] Schweitzer, R. J., Wills, T. A., & Behner, J. D. (2017). E-cigarette use and Indicators of Cardiovascular Disease Risk. Current Epidemiology Reports, 248-257. https://doi.org/10.1007/s40471-017-0118-8.

[18] Islam T., Braymiller J., Eckel S. P., Liu F., Tackett A. P., Rebuli M. E., Barrington-Trimis J., & McConnell R. (2022). Secondhand nicotine vaping at home and respiratory symptoms in young adults. Thorax. Retrieved from https://pubmed.ncbi.nlm.nih.gov/35013000/.

[19] Xian, S., & Chen, Y. (2021). E-cigarette users are associated with asthma disease: A meta-analysis. The Clinical Respiratory Journal; 15: 457– 466. https://doi.org/10.1111/crj.13346.

[20] John Hopkins Medicine. (2020). 'Vaping' Increases Odds of Asthma and COPD. Retrieved from https://www.hopkinsmedicine.org/news/newsroom/news-releases/vaping-increases-odds-of-asthma-and-copd

[21] Xuechao Li MPH., Yi Zhang MM., Rongqiang Zhang MD., Fei Chen MM., Lihua Shao MM., & Li Zhang MM. (2022). Association Between E-Cigarettes and Asthma in Adolscents: A Systematic Review and Meta-Analyasis. American Journal of Preventive Medicine; 62 (6); 953-960. https://doi.org/10.1016/j.amepre.2022.01.015.

[22] Hess IMR, Lachireddy K, Capon A. (2016). A systematic review of the health risks from passive exposure to electronic cigarette vapour. Public Health Research and Practice; 26(2). http://dx.doi.org/10.17061/phrp2621617.

[23] Islam T, Braymiller J, Eckel SP, Liu F, Tackett AP, Rebuli ME, Barrington-Trimis J, & McConnell R. (2022). Secondhand nicotine vaping at home and respiratory symptoms in young adults. Thorax. 77 (7):663-668. doi: 10.1136/thoraxjnl-2021-217041.

[24] Hess IMR, Lachireddy K, & Capon A. (2016). A systematic review of the health risks from passive exposure to electronic cigarette vapour. Public Health Research and Practice; 26 (2). http://dx.doi.org/10.17061/phrp2621617.

[25] Islam T, Braymiller J, Eckel SP, Liu F, Tackett AP, Rebuli ME, Barrington-Trimis J, & McConnell R. (2022). Secondhand nicotine vaping at home and respiratory symptoms in young adults. Thorax. 77 (7):663-668. doi: 10.1136/thoraxjnl-2021-217041.

[26] Protano C, Avino P, Manigrasso M, Vivaldi V, Perna F, Valeriani F, & Vitali M. (2018) Environmental Electronic Vape Exposure from Four Different Generations of Electronic Cigarettes: Airborne Particulate Matter Levels. International Journal of Environmental Research and Public Health; 15 (10). doi: 10.3390/ijerph15102172

[27] Qasim H, Karim ZA, Rivera JO, Khasawneh FT, & Alshbool FZ. (2017). Impact of Electronic Cigarettes on the Cardiovascular System. Journal of the American Heart Association; 30; 6(9). doi: 10.1161/JAHA.117.006353. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5634286/

In conclusion, second-hand smoke from a vape can be harmful to others, particularly children, pregnant women, and individuals with respiratory problems. The aerosol produced by e-cigarettes contains nicotine, ultrafine particles, and other harmful chemicals, which can lead to addiction, respiratory problems, and other health issues. To protect the health of individuals and communities, efforts should be made to control the use of e-cigarettes in public spaces and reduce exposure to second-hand vapor.

Human Rights Implications of E-Cigarettes

As the world transitions away from fossil fuels, transitions to cleaner energy sources are necessary. Similarly, the tobacco industry is making a similar transition, away from traditional cigarettes with lighters, to e-cigarettes with internal lithium-ion batteries.[28] Lithium-ion batteries use multiple critical minerals to operate. Human rights activists have criticised practices involved in the extraction of these minerals, namely, cobalt and lithium.[29] There are considerable concerns regarding the mining of these minerals due to evidence of child slavery and system abuses of human rights in these mines.[30] Further, studies demonstrate that power dynamics between those who operate the mines and their poorer workers, with limited alternatives for work, have led to widespread abuse across the whole mining sector.[31] These impacts go beyond considerations of the impacts of e-cigarettes, and highlight serious concerns to be considered across many growing industries as the world transitions away from fossil fuels and to safer alternatives.

Cross jurisdictional analysis of regulation of vape smoking

Prohibition

This approach generally involves banning the manufacture, export, import, sale and/or possession of e-cigarettes.[32] Jamaica, Japan, Mexico and Switzerland have prohibited the sale of e-cigarettes containing nicotine, and a further 26 countries, including Argentina, Brazil and India, have completely banned the sale of all types of e-cigarettes.[33]

For example, in Singapore, s 16 of the *Tobacco (Control of Advertisement and Sale) Act 1993* makes it an offence for a person to distribute or sell 'imitation tobacco products', such as e-cigarettes. Any person who contravenes this prohibition may be subject to a file of up to $10,000 or up to 6 months' imprisonment. Of course, this makes it difficult to obtain accurate self-reported data on the ongoing use of vaporisers.[34] However, in 2021, there were a total of 4,697 offenders caught for purchase, use or possession of vaporisere, a 270% increase on the previous year.[35] Therefore, the Singapore Ministry

[28] Jamie Harshman, Miliana Vojvodic, and Alan Rogers, 'Burns Associated with E-Cigarette Batteries: A Case Series and Literature Review' (2018) 20 *CJEM* 20, 20.

[29] Shahjadi Hisan Farjana, Nazmul Huda and M.A. Parvez Mahud, 'Life Cycle Assessment of Cobalt Extraction Process' (2019) 18 *Journal of Sustainable Mining* 150, 150, 154; Benjamin Sovacool, 'When subterranean Slavery Supports Sustainability Transition? Power, Patriarchy and Child Labor in Artisanal Congolese Cobalt Mining' (2021) 8 *The Extractive Industries and Societies* 271, 272.

[30] Human Rights Watch, 'Child Labor and Human Rights Violations in the Mining Industry of the Democratic Republic of the Congo' *Human Rights Watch* (2022); Terry Gross, 'How 'Modern-Day Slavery' in the Congo Powers the Rechargeable Battery Economy' *NPR* (online, February 1, 2023)

[31] Benjamin Sovacool, 'The Precarious Political Economy of Cobalt: Balancing Prosperity, Poverty and Brutality in Artisanal and Industrial Mining in the Democratic Republic of the Congo' (2019) 6(3) *The Extractive Industries and Society* 915.

[32] Brooke Campus et al, 'Comparing the regulation and incentivization of e-cigarettes across 97 countries' (2021) 291 *Social Science & Medicine* 114187.

[33] 'Country Laws Regulating E-Cigarettes', *Institute for Global Tobacco Control* (Web Page) < https://www.globaltobaccocontrol.org>.

[34] Yip Hon Weng, 'Trend in Number of People Using Vaporisers', *Singapore Ministry of Health* (Notice Paper No. 1040, 7 March 2022 <https://www.moh.gov.sg/news-highlights/details/trend-in-number-of-people-using-vaporisers>.

[35] Ibid.

of Health is planning a stronger public education campaign targeted at young adults in an effort to curb the rise of vaping in the country.[36]

Component Ban

Some jurisdictions have focused on setting product standards for e-cigarette liquids (e-liquids).[37] Most commonly, this has involved banning e-liquids containing either any nicotine or nicotine above a certain concentration, with 32 countries introducing such regulations.[38] Finland's *Tobacco Act*, by contrast, prohibits the sale or supply to consumers of e-liquids with a 'characterising flavour or aroma' other than tobacco. This is meant to discourage the uptake or ongoing use of e-cigarettes among teens and young adults because they are known for tending to prefer flavoured vapes.[39]

Regulation as Medicinal Products

20 countries prohibit the sale and supply of e-cigarettes for non-medicinal purposes.[40] This continues to permit vaping as a therapeutic alternative to cigarettes for existing smokers trying to quit, while restricting access to non-smokers seeking to use e-cigarettes recreationally.[41] However, this approach presents its own challenges. It may permit e-cigarettes to continue to circulate in the community and potentially fall into unintended hands after sale. It also creates a confusing double-standard whereby a less harmful alternative to smoking is actually subject to *greater* regulations and restrictions than traditional cigarettes.

Age Restrictions

Other jurisdictions are specifically targeting the uptake of vaping among youth by increasing the minimum age for consumers to buy vaping products. For instance, in late 2021, the United States *Federal Food, Drug, and Cosmetic Act* was amended, making it illegal for a retailer to sell any tobacco product, including e-cigarettes, to anyone under the age of 21. A study published by the Centers for Disease Control and Prevention in 2021 found that, in the year following the amendment, the overall percentage of children in Year 6 to Year 12 who described it as 'easy' to buy tobacco products in store degreased from 67.2% to 58.9%.[42] Nonetheless, 83% of teens in that age bracket who reported attempting to buy tobacco products reported still being able to do so, largely because it was still easy to do so online.[43] This suggests regulations targeted at face-to-face purchasers of vaping products are insufficient to curb this issue.

[36] Ibid.
[37] Campus et al (n 1).
[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Konstantinos E Farsalinos and Jacques Le Houezec, 'Regulation in the face of uncertainty: the evidence on electronic nicotine delivery systems (e-cigarettes)' (2015) 29(8) *Risk Management and Healthcare Policy* 157.
[42] Israel T. Agaky et al, 'A Rapid Evaluation of the US Federal Tobacco 21 (T21) Law and Lessons from Statewide T21 Policies: Findings From Population-Level Surveys' (2022) 19 *Preventing Chronic Disease* 210430.
[43] Ibid.