

Briefing on the prohibition of single-use vapes in Northern Ireland – health perspectives

May 2024



This briefing covers

- 1. What are single-use vapes?
- 2. Who is using single-use vapes in Northern Ireland and why?
- 3. What do we know about health harms from single-use vapes in Northern Ireland?
- 4. What do we know about the environmental impact of single-use vapes in Northern Ireland?
- 5. How are single-use vapes currently regulated and what changes have been announced?
- 6. What are the intended health outcomes from new regulations?

1. What are single-use vapes?

Electronic nicotine-delivery systems (ENDS), specifically electronic cigarettes (also known as e-cigarettes, vaping devices, vapes or vape pens) are devices that allow users to inhale or 'vape' an aerosol containing nicotine, flavourings, and/or other substances. There are four main vaping devices used: single-use/disposable, tank, modified or modular ('mod'), and pod.

- 1. Single-use/disposable: these are non-rechargeable devices that typically come readyfilled with e-liquid. They are discarded after use.
- 2. Tank/Vape pens: these have a rechargeable battery and a tank that can be replenished with bottled e-liquid.
- 3. Modified/Modular/Mod: these are modifiable devices, allowing users to customise the substances in the device.
- 4. Pod: these have a prefilled or refillable "pod" or pod cartridge. They typically use nicotine salts rather than the freebase nicotine used in most other vaping products.

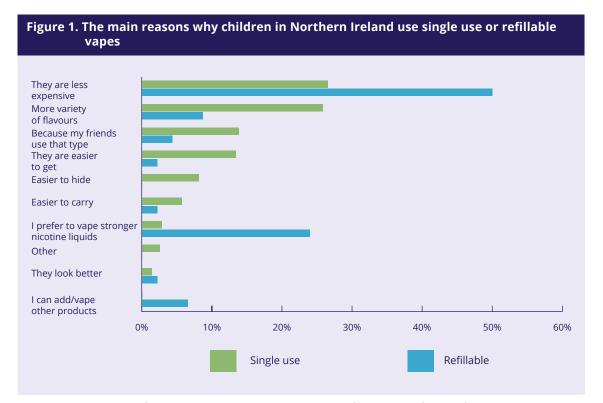


2. Who is using single-use vapes in Northern Ireland and why?

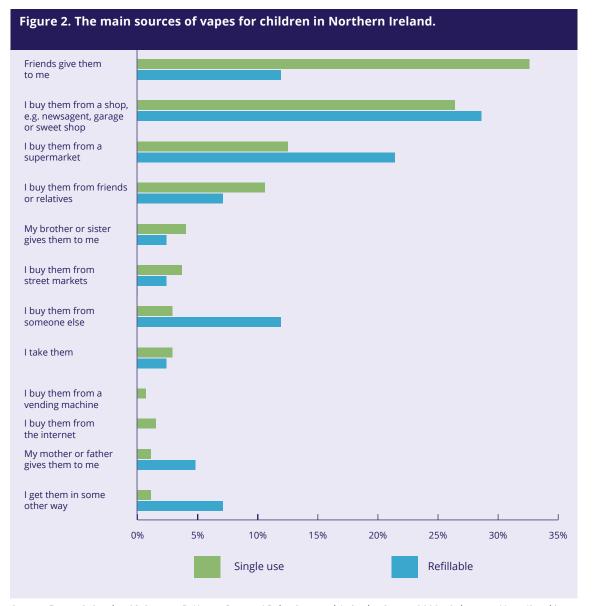
Vaping products, including single-use vapes, can be used as an aid for some people to stop using tobacco. However, the ways in which these products are currently retailed and marketed makes them appealing, accessible and affordable to children, including both children who have never smoked and children who are already using tobacco. The entry of single-use vapes onto the market has coincided with an increase in youth vaping (1).

Both adults and children use single-use vapes. In Northern Ireland, 6% of 11 to 16 year olds vape at least once a week (2). Of these, 86% reported using single-use devices (2). In those over the age of 16 in Northern Ireland, 9% reported that they currently vape. The proportion of those over the age of 16 using single-use devices is not known.

A single-use vape can be purchased for as little as £2.99, which makes these products more affordable to young people (3). The main reasons why children in Northern Ireland use single-use or refillable vapes are outlined in Figure 1. Figure 2 illustrates where children in Northern Ireland usually source their vapes.



Source: Foster C, Scarlett M, Stewart B. Young Persons' Behaviour and Attitudes Survey 2022 -Substance Use - (Smoking, Alcohol & Drugs). Belfast; 2023 (2)



Source: Foster C, Scarlett M, Stewart B. Young Persons' Behaviour and Attitudes Survey 2022 - Substance Use - (Smoking, Alcohol & Drugs). Belfast; 2023 (2)

3. What do we know about health harms from single-use vapes in Northern Ireland?

As single-use vapes are relatively new products, it will be some time before long-term health effects are established. However, current research on general vape use has already identified several health risks among children and adolescents. There is a strong association between vaping and subsequent cigarette use at follow up based on longitudinal data and a high-quality systematic review (4). Systematic reviews also found some evidence to support the association between vaping in children and young people and having asthma, increased coughing, mental health, marijuana use, and alcohol use (5-9).

All nicotine vaping products are addictive, but we cannot predict which children will progress from experimentation to long-term nicotine addiction. The nicotine level in the product is one factor that can influence the likelihood of seeding nicotine addiction in a child. Where alerts have been issued in relation to e-cigarette products with nicotine levels above those allowed under regulations, these have generally been in the context of single-use vape products. In Ireland, the Health Service Executive has issued alerts on single-use vapes due to products exceeding the permitted amount of nicotine (20mg/ml or 2%), with levels up to 50.4mg/ml detected (10).

There is no evidence that single-use vapes make it easier for people to switch from tobacco to vaping or to stop using tobacco when compared to other vaping products (11).

4. What do we know about the environmental impact of single-use vapes in Northern Ireland?

Vapes comprise three types of waste: plastic, electronic and hazardous chemical waste (12). Single-use vapes contain single-use plastics, which contribute to land and marine pollution with adverse effects on human and animal health and climate change (13). Vapes contain circuit boards and lithium-ion batteries which release toxic compounds into the environment as they degrade. Batteries are also associated with explosion and fire risk (12). When improperly discarded, vapes leach heavy metals, such as mercury, lead and bromides, as well as battery acid, lithium and nicotine into the environment (14). Some vapes contain enough toxic chemicals to qualify as hazardous waste (15). Lithium is a precious metal and an important component of electric car batteries (16). UK research on discarded single-use vapes found that approximately 10 tonnes of lithium is wasted per year, which is the equivalent to the batteries of 1,200 electric vehicles (17). Lithium mining also leads to substantial environmental impacts, including land and water use, pollution and carbon emissions (18).

Research funded by the Department of Agriculture, Environment and Rural Affairs and published in July 2023 has also highlighted that tobacco and vaping products account for a sizeable proportion of street litter in Northern Ireland (19). An estimated 1.19 million cigarette butts are scattered throughout Northern Ireland at any one time (representing 10 per cent of overall litter), with vaping products accounting for a further 2 per cent of litter (similar to coffee cups and food litter) (19).



5. How are single-use vapes currently regulated and what changes have been announced?

Single-use vapes are currently regulated in the same way as other vaping devices. It is illegal for a retailer to sell tobacco or any vaping product to someone under the age of 18 with a fixed penalty notice of £250, or a maximum fine of £5,000 if prosecuted and convicted by a court. The UK Medicines and Healthcare Products Regulatory Agency (MHRA) is the authority overseeing compliance with minimum standards including aspects of safety, labelling and warning on vape packaging and maximum allowable volume of e-liquid and nicotine strength (20).

Advertising or promotion (direct or indirect) of vapes and refill containers in print media, on the radio or television is prohibited and promotional elements are not allowed on vape packaging. However, there are limited restrictions on billboard or online marketing (21).

The Northern Ireland Assembly will shortly be voting on a Legislative Consent Motion on the Tobacco and Vapes Bill. This Bill provides devolved nations with a range of powers in relation to vapes, but does not yet specify exactly the regulations which will apply. If the Bill passes in Westminster and the Assembly approves participation in the Bill, these powers include:

| Powers | Territorial extent |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Power to restrict the flavours of nicotine and non-nicotine vapes and other nicotine products | United Kingdom (UK-wide powers) |
| Power to regulate point of sale displays for nicotine and non-nicotine vapes and other nicotine products | United Kingdom (Includes powers for each UK nation to regulate independently) |
| Power to regulate the packaging and product presentation of nicotine and non- nicotine vapes and other nicotine products | United Kingdom (UK-wide powers) |
| Stop the free distribution of nicotine and non-nicotine vapes to children | England and Wales (Includes a power for Northern Ireland to implement via secondary legislation) |
| Introduce age of sale restrictions for non- nicotine vapes | England and Wales (Includes a power for Northern Ireland to implement via secondary legislation) |
| Power to extend free distribution prohibitions and age of sale restrictions to other nicotine products | England, Wales & Scotland |
| | Northern Ireland already has powers to apply age 18 restriction to other nicotine products. |

Table 1. Regulatory powers provided under the UK Tobacco and Vapes Bill

In a press release on 02 May 2024, Minister for the Environment Andew Muir MLA announced his intention to prohibit the sale and supply of single-use vapes in Northern Ireland by April 2025, in parallel with the UK (22). Minister Muir welcomed the collaborative engagement between government officials across the UK to address the issue and that an alignment of approaches will deliver shared health and environmental benefits. A singleuse vapes working group has been formed between Northern Ireland, England, Scotland and Wales (22).

In the 2023 UK government consultation on the UK Tobacco and Vapes Bill, 90.4% of individual respondents from Northern Ireland agreed there should be restrictions on the sale and supply of single-use vapes and 84.9% agreed that restrictions should take the form of a ban on their sale and supply (22).

In June 2023, the Department of the Environment, Climate and Communications in Ireland launched a public consultation to help inform Ireland's response to disposable vaping devices and Minister Ossian Smyth has stated his intention to proceed with a ban on the sale of single-use vapes in Ireland. The timeline for implementation is unclear at this time. Elsewhere in Europe, Belgium will ban single use vapes from 1 January 2025, with France expected to follow suit (23). Australia banned the import of single use vapes from 1 January 2024 (24). In March 2024, New Zealand announced a plan to introduce a ban on the sale of single use vapes.

6. What are the intended outcomes from new regulations?

A ban on the sale and supply of single-use vapes aims to improve health by

- Reducing the appeal, accessibility and affordability of vaping products to children leading to
 - » Fewer children experimenting with vaping
 - » Fewer children progressing from experimentation to regular use of vapes driven by nicotine addiction
 - » Fewer children exposed to direct health harms associated with vaping and fewer children progressing to tobacco use longer-term
- Retaining a wide variety of vaping products on the market for adult smokers committing to use vapes as an aid to stop smoking, as well as State-funded services to support people to escape from addiction to tobacco, vapes, or both products.
- Protecting against environmental degradation and conserving natural resources to protect Northern Ireland ecosystems which form the basis of health
- Reducing litter and enhancing the visual appeal of local public places and spaces for local communities, tourism and social development.

References

- 1. Faculty of Paediatrics at the Royal College of Physicians of Ireland. Disposable Vapes and Young People. Dublin; 2023.
- 2. Foster C, Scarlett M, Stewart B. Young Persons' Behaviour and Attitudes Survey 2022 Substance Use (Smoking, Alcohol & Drugs). Belfast; 2023.
- 3. Mahase E. Paediatricians call for ban on disposable e-cigarettes as child vaping rises. British Medical Journal Publishing Group; 2023.
- Yoong SL, Hall A, Turon H, Stockings E, Leonard A, Grady A, et al. Association between electronic nicotine delivery systems and electronic non-nicotine delivery systems with initiation of tobacco use in individuals aged < 20 years. A systematic review and metaanalysis. PLoS One. 2021;16(9):e0256044.
- 5. Li X, Zhang Y, Zhang R, Chen F, Shao L, Zhang L. Association Between E-Cigarettes and Asthma in Adolescents: A Systematic Review and Meta-Analysis. Am J Prev Med. 2022;62(6):953-60.
- 6. Bourke M, Sharif N, Narayan O. Association between electronic cigarette use in children and adolescents and coughing a systematic review. Pediatr Pulmonol. 2021;56(10):3402-9.
- Becker TD, Arnold MK, Ro V, Martin L, Rice TR. Systematic Review of Electronic Cigarette Use (Vaping) and Mental Health Comorbidity Among Adolescents and Young Adults. Nicotine Tob Res. 2021;23(3):415-25.
- 8. Chadi N, Schroeder R, Jensen JW, Levy S. Association Between Electronic Cigarette Use and Marijuana Use Among Adolescents and Young Adults: A Systematic Review and Metaanalysis. JAMA Pediatr. 2019;173(10):e192574.
- Rothrock AN, Andris H, Swetland SB, Chavez V, Isaak S, Pagane M, et al. Association of E-cigarettes with adolescent alcohol use and binge drinking-drunkenness: A systematic review and meta-analysis. Am J Drug Alcohol Abuse. 2020;46(6):684-98.
- Health Service Executive. HSE Environmental Health Service issues a RAPEX safety alert notice relating to disposable electronic cigarettes: HSE; 2023 [Available from: https:// www.hse.ie/eng/services/news/media/pressrel/hse-environmental-health-service-issuesa-rapex-safety-alert-notice-relating-to-disposable-electronic-cigarettes.html.
- 11. Gravely S, Yong H-H, Reid JL, East KA, Liber AC, Cummings KM, et al. An examination of quitting smoking as a reason for vaping by the type of nicotine vaping device used most often among adults who smoke and vape: Findings from the Canada, England and the United States 2020 ITC Smoking and Vaping Survey. Preventive Medicine Reports. 2023;33:102201.
- 12. Pourchez J, Mercier C, Forest V. From smoking to vaping: a new environmental threat? Lancet Respir Med. 2022;10(7):e63-e4.
- 13. Maquart P-O, Froehlich Y, Boyer S. Plastic pollution and infectious diseases. The Lancet Planetary Health. 2022;6(10):e842-e5.
- 14. Chapman M. Rise of single-use vapes sending tonnes of lithium to landfill: The Bureau of Investigative Journalism; 2022 [Available from: https://www.thebureauinvestigates. com/stories/2022-07-15/rise-of-single-use-vapes-sending-tonnes-of-lithium-to-landfill#:~:text=Published%20July%2015%202022&text=A%20joint%20investigation%20 by%20the,disposable%20vapes%20are%20currently%20booming.

- 15. Krause MJ, Townsend TG. Hazardous waste status of discarded electronic cigarettes. Waste Manag. 2015;39:57-62.
- 16. ASH Scotland. Briefing on e-cigarette waste. 2022.
- 17. Material Focus. One million single-use vapes thrown away every week contributing to the growing e-waste challenge in the UK. 2022.
- 18. Zheng M. The Environmental Impacts of Lithium and Cobalt Mining: Earth.org; 2023 [Available from: https://earth.org/lithium-and-cobalt-mining/.
- 19. Keep Northern Ireland Beautiful. Litter Composition Analysis Report: 2022/23. Belfast; 2023.
- 20. Rough E. The regulation of e-cigarettes. London; 2024.
- 21. Conway L. Advertising, marketing and promotion of vaping products London; 2024.
- 22. Minister takes action on single-use vapes [press release]. 2024.
- 23. Government S. Prohibition of the sale and supply of single-use vapes: strategic environmental assessment environmental report. Edinburgh; 2024.
- 24. Australian Government: The Department of Health and Aged Care. New regulation of vapes starting January 2024 2023 [Available from: https://www.tga.gov.au/news/media-releases/new-regulation-vapes-starting-january-2024.



publichealth.ie

Dublin Office

700 South Circular Road Dublin 8 DO8 NH90, Ireland T: + 353 1 478 6300

Belfast Office

6th Floor, City Exchange 11-13 Gloucester Street Belfast BT1 4LS, Northern Ireland T: + 44 28 90 648494

