Alcohol and Drug Foundation: Position Paper

Vaping.

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What is vaping?

Vaping refers to inhaling nicotine or other substances produced by an electronic device, including electronic cigarettes (e-cigarettes) and vaporisers (known as a 'vape').

The terms 'vaping' and 'e-cigarettes' have become synonymous with any use of such devices, typically with little or no distinction between those with or without nicotine, or containing other substances.

This lack of distinction between products and uses makes it challenging for people to understand the risks. It is also challenging for population surveys to gather data to determine issues such as, how many people who vape are likely to be dependent on nicotine?

Glossary:

Vaping: Vaping refers to inhaling substances produced by an electronic device that heats a product to the point of vaporisation without combustion. Vaping devices can be used to inhale a range of substances, including nicotine and cannabis, as well as non-psychoactive liquids containing flavouring. To 'vape' is the action of vaping.

Vaping devices: Electronic or battery-powered devices that heat liquid (or dry material/wax) into a vapour that can then be inhaled. There is no combustion, so no smoke is created. Vaping devices vary in shape and size. Some devices are designed to resemble combustible cigarettes while others look like USB sticks, pens, or are tank-like.

Electronic nicotine delivery system (ENDS): A device specifically designed for vaping nicotine. The liquid contains nicotine and other additives including, in some cases, flavourings. ENDS devices come in many different shapes and sizes. ENDS are non-combustible, in that they are a 'heat, not burn' device.

Vaping liquid/e-liquid: The liquid used in the vaping device. It can be made up of several components such as solvents, flavourings, and sweeteners.

Combustible tobacco: Any tobacco product that is designed to be smoked. Includes tailor-made cigarettes, roll-your-own pouch tobacco, cigars, and cigarillos.

Why?

The research into vaping is in its relative infancy.

Like most early health research, the limited number of studies, and the variable quality, do not allow bold conclusions.

In the same way that the full health effects of smoking cigarettes were not known for decades, any sense of the full impacts of vaping will not be known until there are robust longitudinal studies.

However, researchers, public health organisations, manufacturers and supporters of e-cigarettes all note that not vaping is the safest option. Vaping any substance carries some risk.

The rapid uptake of vaping and the time required to research its effects means that the market for nicotine and non-nicotine vaping products is moving faster than the research can keep up.

This gap is not only about the effect of vaporised nicotine as a harm-reduction approach for smokers, but also the effect of many added ingredients, solvents, chemicals, flavourings and other psychoactive substances that can be found in e-liquids.

Further complicating the debate is the entry into the ENDS marketplace by big tobacco companies, who have a vested economic interest as cigarette smoking declines.

The tobacco industry appears to be supportive of the vaping 'industry' and indeed some major tobacco companies have purchased ENDS companies.[1]

In the US, tobacco companies own, in whole or in part, ENDS manufacturers that account for 94% of sales. This includes Juul (83% share) which is 35% owned by Philip Morris.[2]

Consequently, there are concerns around biased research funded by industry, with one systematic review finding a strong association between industry-funded research and favourable results indicating that ENDS are low risk.[3]

Nicotine

Nicotine is a toxic substance with a high rate of dependence. When used in any form on a regular basis, it can lead to dependence.

There are some concerns that ENDS may lead to higher consumption of nicotine than found in combustible cigarettes as the devices can be modified to deliver a higher concentration of nicotine. Exposure to nicotine can be dependent on the user, their inhalation frequency and device characteristics.

There are also concerns about the effects of flavoured products in e-liquids, as some flavours contain additives that, in large quantities, are potentially harmful.

With more than 500 brands and 8000 flavours of nicotine liquid alone, it can be difficult to measure broad health effects when there are so many variables and ingredients. Each contains different, unregulated additives which may have different health effects.[4]

Even nicotine-free e-liquids contain a mix of unregulated chemicals and additives that could cause harm.

The harms associated with vaping an unknown chemical combination, and the role that nicotine-free e-liquids play as a gateway to using nicotine containing devices or smoking combustible cigarettes are yet to be fully understood.

Vaping to quit or reduce smoking

Vaping devices can be marketed as an alternative to combustible tobacco for current smokers and as a device to help them stop smoking.

The evidence to support the use of ENDS for smoking cessation is modest however, and its effectiveness in helping people quit smoking is not conclusive.

While most studies show some benefit of using ENDS to quit smoking,[5-7] the research is generally of poor quality so firm conclusions about the effect of ENDS on quitting smoking cannot yet be drawn.

Furthermore, while some studies have shown that ENDS improve cessation, this is generally when it is used as part of a clinically supervised smoking cessation program.[6]

ENDS may help smokers who have trouble quitting to reduce their cigarette consumption when compared with placebo-ENDS and nicotine patches, although the research quality is mixed.[8, 9]

There is also emerging evidence indicating that the use of ENDS can reduce the number of cigarettes someone smokes in a day and reduce nicotine withdrawal symptoms that can lead to relapse.[10,11] However, people who shift from combustible tobacco to ENDS may end up using both which could increase health risks compared to using either product alone.[12]

While there are concerns that a switch from combustible tobacco to ENDS won't significantly decrease a person's dependence on nicotine, the switch could be seen as an approach to reduce the risk of harms such as heart disease and cancer.

Both Public Health England and the National Academies of Science, Engineering, and Medicine agree that, while ENDS are 'safer' than combustible cigarettes, they are not 'safe'.[13]

Vaping for recreational use

Although vaping appears to be less harmful than combustible tobacco, there are still health concerns.

- Vaping may produce adverse health effects and the long-term effects are unknown.
- There is a risk of the re-normalisation of nicotine use, especially among today's nicotine-naïve population, leading to concerns about the potential to reverse the progress made over decades of global tobacco control efforts.[14]
- Concerns are also mounting regarding the uptake of vaping, including in adolescent groups, and the potential misuse of these devices.

While there is limited published research available to understand patterns of use, frequency and risk, Australian population surveys show that adolescents and young people are increasingly engaging in vaping.[15, 16]

Around 13% of 12-17 year olds have tried an e-cigarette, with around 4% vaping at least once in the past month.[15]

As we have seen with tobacco advertising, exposure to vaping advertising may play a role in a teen's decision to start using e-cigarettes.[17]

In fact, it has been argued that online promotional and marketing strategies used for vaping products are intended to entice young people and normalise vaping as a fun or recreational activity.[18]

While the advertising and promotion of vaping products is illegal in Australia, it is believed that companies are strategically able to target youth through the use of social media as advertising channels, glamourising their products to seem cool or fun as well as creating flavours that appeal to young people.[18]

It's unclear if vaping increases the risk of later use of combustible tobacco among young people, suggesting that prevention efforts should focus on initial use, of both ENDS and combustible tobacco, among teens.

There is, however, evidence to suggest that vaping by adults does not lead to smoking tobacco.[19, 20]

ADF position:

1. Vaping of nicotine and other substances is associated with harms and should be discouraged.
2. While it's likely that vaping has lower associated risks and harms in contrast to combustible tobacco, both are associated with a range of harms. The ADF recommends the focus should be on prevention and cessation of their use.
3. Vaping may be effective at helping some people reduce their tobacco consumption. For people who would not otherwise stop smoking, ENDS could be considered as a last line option due to the lower overall associated harms.
4. Further research around the effectiveness of vaping as a smoking cessation tool and the unique harms and unintended consequences is warranted, prior to its broad promotion as a harm reduction tool.
5. The ADF recognises the need for greater data collection to determine accurate usage rates, in particular uptake among non-smoking adolescents and young people. There is also a need to understand usage based on substance – nicotine, non-nicotine and/or other substances including illicit drugs.
6. The ADF supports a ban on all marketing and promotion of vaping devices and a ban on the sale of devices to people under the age of 18.
7. Until evidence of safety, quality and efficacy can be produced, the ADF supports the NHMRC[21] position that notes the need for health departments and policy-makers to act to minimise harm to users and bystanders, and to protect vulnerable groups such as young people.

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