

Improving tobacco cessation rates in priority populations

A POLICY EVIDENCE BRIEF

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Rachel Brisbane, Rosemary Calder



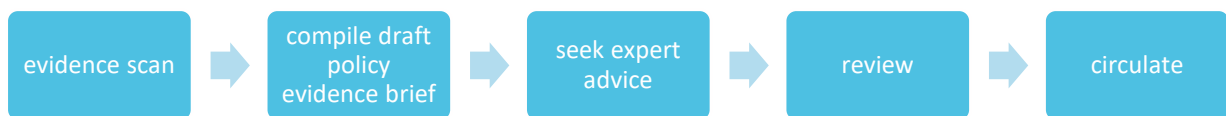
About us

The Mitchell Institute for Education and Health Policy at Victoria University is one of the country's leading education and health policy think tanks and trusted thought leaders. Our focus is on improving Australia's education and health systems so more Australians can engage with and benefit from these services, supporting a healthier, fairer and more productive society.

The Australian Health Policy Collaboration is led by the Mitchell Institute at Victoria University and brings together health organisations and chronic disease experts to translate rigorous research into good policy. The national collaboration has developed health targets and indicators for preventable chronic diseases designed to contribute to reducing the health impacts of chronic conditions on the Australian population.

Process

The Mitchell Institute's policy evidence briefs are short monographs highlighting the key evidence for emerging policy issues. We work with our partners in the Australian Health Policy Collaboration to seek expert advice on topics, content and context.



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Abbreviations

AHPC	Australian Health Policy Collaboration
LGBTQIA+	Lesbian, gay, bisexual, transgender, queer, intersexual, asexual and inclusive of other terms referring to diversity of sexual orientation and gender identification
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

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Executive Summary

The implementation of consistent and comprehensive approaches to tobacco control by Australian governments since the 1970s resulted in major reductions in population smoking rates [1]. Decades of policy reforms, including regulation of cigarette advertising and sporting sponsorship; tobacco excise increases; implementation of comprehensive smokefree legislation and the more recent plain packaging of cigarettes, combined with mass media campaigns, have substantially reduced the national average smoking rate [2, 3]. It has steadily declined from 36% of the adult population in 1977 [4] to 19% in 2007 [5] to the present level of 11% reported in the 2019 National Drug Strategy and Household Survey [6].

Although death rates from diseases attributable to smoking tobacco (for example, lung cancer, coronary heart disease and stroke) have declined over the past thirty years [1], smoking remains the single leading cause of preventable death and disease and one of the leading causes of preventable healthcare costs in Australia [1, 3]. In 2018 in Australia, there were just under 20,500 deaths attributable to tobacco use, which represented 13% of all deaths [7]. Furthermore, tobacco use was a major contributor to the burden of disease associated with numerous disease groups, including 39% of respiratory diseases, 22% of cancers and 11% of cardiovascular disease and was responsible for 8.6% of the overall burden of disease and injury [7]. Tobacco smoking causes more ill-health, hospitalisations and premature death than alcohol and other drug use combined [8].

A study by the National Drug Research Institute on the social costs of tobacco use in Australia in 2015-16 estimated the full cost of the burden from tobacco smoking to society in the financial year at \$136.9 billion, with some of the costs borne now being a legacy of smoking habits in preceding decades [9]. Of the estimated costs in 2015-16, only \$5.5 billion was identified as the cost of tobacco to smokers. The total costs included a combination of tangible and intangible costs, from nearly \$4 billion in primary healthcare treatment, hospital inpatient and outpatient treatment, ambulance and emergency department treatment to costs associated with ill-health and premature death such as loss of productivity from ill-health, unpaid caring by family members, smoking litter removal and fire damage caused by cigarettes and butts [9].

The current national smoking prevalence of 11% [8] represents just over 2.8 million Australian adults who reported smoking daily in 2019 [10]. The National Preventive Health Strategy 2021-2030, released in 2021, has set a new national target of 5% or less for adults (≥ 18 years) smoking prevalence by 2030 [11]. To achieve this target, more people who smoke need to be supported to quit together with policy emphasis on encouraging former smokers and never-smokers to remain as non-smokers.

There are population groups within the remaining 2.8 million daily smokers with smoking rates well above the national average. These groups often face additional challenges and barriers in successfully quitting smoking [12-16]. To continue to reduce higher rates of prevalence in these population groups requires a strong focus on supporting individuals to quit and discouraging the take up of smoking within these groups. Generally referred to as 'priority population groups', these groups are often characterised by low-socioeconomic status [15] and/or by other combinations of disadvantage, vulnerability or health risk. Priority population groups include Aboriginal and Torres Strait Islander people, people with mental health conditions, people identifying as gay, lesbian, bisexual, transgender or intersex and people in rural and regional communities [17].

Peer-reviewed evidence suggests that health networks generally are an underutilized whole of population intervention with the capacity to reach all smokers, reinforce the importance of quitting and connect individuals to smoking cessation resources appropriate for them in a cost-effective way [18]. Priority population groups are more likely to have poorer health than the general population and to have more frequent contact with health services. Leveraging these interactions with health care provides an efficient and effective means to engage with smokers and facilitate smoking cessation support.

This paper also considers the role of tobacco related products in promoting and sustaining cigarette smoking and other tobacco consumption. Filters in cigarettes are thought by some smokers to offer protection by filtering out harms [19, 20], despite the evidence to the contrary [19]. In addition, filters with flavour capsules entice and initiate young people into smoking behaviours who often assume (incorrectly) these products are less harmful [21]. Strong evidence connects filters to a range of health risks [19]. In response, there is an emerging view that there is potential for significant positive impact through the banning of filters in cigarettes. Policy reforms of this nature are under consideration in New Zealand [22] and New York state [23]. Until further evidence is available following the implementation of these reforms, educational campaigns on the harms of filters could be an effective intervention.

There has been rapid growth in e-cigarette use by adolescents and young people [8]. This has the potential to reverse [24] the downward smoking prevalence trends in this group [8, 25]. Reducing affordability of and access to these products could be expected to reduce the take up of smoking by teenagers. A national licensing scheme could strengthen tobacco controls and support whole of population smoking reduction.

Finally, this paper reiterates the importance of maintaining and strengthening whole of population anti-smoking interventions, such as policy frameworks and investments, regulation and mass media / social marketing campaigns, that reinforce and normalize non-smoking in society [26, 27]. Characteristic for whole of population health interventions is the focus on addressing underlying conditions. Such a strategic and sustained approach sets a strong foundation that encourages all smokers to quit, helps prevent relapse in those who have quit and discourages the uptake of smoking particularly for young people [26]. Where whole of population interventions are mass media campaigns, the evidence indicates they must be purposefully inclusive of priority populations to support maximum reach into these groups [28-30]. Previous Australian programs have shown that impact is magnified when these communities are engaged in identifying how existing resources might be better tailored to them and development of any other additional supports [28-30].

This policy evidence brief outlines:

- the groups within the Australian population with high smoking prevalence rates and some of the additional barriers that they need support to overcome;
- interventions that, when combined, create an effective foundation to support existing smokers, particularly those in priority populations, to quit, discourage relapse and encourage young people to never smoke;
- effective interventions that use existing health resources, where available; and
- identifies policy options that will best support the achievement of the national aim for 5% or less for adults (≥ 18 years) smoking prevalence target by 2030.

The policy options include:

- re-commencement of mass media campaigns, ensuring that they:
 - are inclusive of priority populations and reflective of their challenges
 - educate about product engineering such as the harms of filters and e-cigarettes;
- investment in optimising all interactions between smokers and healthcare, both primary and specialist, to embed a health focus on smoking cessation and support through incentives and investments in evidence-informed treatment approaches, including combined pharmacotherapies with behavioural interventions, with training and support for healthcare professionals; and
- establishment of a national retail tobacco sales licensing scheme.

What is the problem?

1. People who smoke need more help to quit

To achieve the 2030 target of 5% or less smoking prevalence among adults (≥18 years) and reduce the health burden from smoking related disease and preventable death, more than half of the current 2.8 million daily smokers need to quit.

Whilst many smokers have reduced the number of cigarettes smoked each day (from 16 to 13 cigarettes a day) [8], and the attitudes and behaviours of current smokers demonstrate, over time, increasing motivation to quit and reduce dependency on tobacco [31], the use of evidence-based treatments to support those intending to quit smoking is very low, often resulting in multiple attempts to quit by individuals [18].

Most of the recent decreases in smoking rates have been attributed to younger people aged 14-39 not taking up smoking [8], rather than existing smokers quitting.

Populations with high smoking rates

Many people in populations with high smoking rates reside within low-income areas [15, 32-34]. This includes people living in remote and rural areas [35, 36], people living with serious and persistent mental illness [36, 37], prisoners and people who have experienced incarceration [36, 38], people experiencing homelessness [36, 39, 40] and those who misuse substances [36]. People who smoke at higher rates than the national average also include those with other attributes and combinations of disadvantage and discrimination such as Aboriginal and Torres Strait Islander people [41] and LGBTQIA+ people [42].

Whilst the smoking prevalence rate in the general population is currently just over double the 2030 target at 11%, it is estimated to be double and up to triple the national average among priority population groups [14, 15, 32, 33, 43, 44]. People in these groups make up a significant proportion of the remaining 2.8 million daily smokers in Australia. As a result, these people bear a greater health burden of smoking related preventable chronic health conditions and early death at far higher rates than the general population [1, 9, 14, 32, 36, 43].

The table below outlines priority populations with smoking rates well above the national average.

Table 1 – Prevalence rates of people who smoke within priority populations

Priority Population	Estimated Smoking Prevalence Rate
People experiencing homelessness	A Melbourne study in 1995-96 identified an elevated prevalence rate of 77% among homeless people and up to 93% among 'rough' sleepers [45].
People using other substances	In a study of secondary school students in 2017, between 36% and 42% of those who reported using other substances also used tobacco concurrently [46]. Prevalence rates from 68% to 90% have been reported among those with substance use disorders [47].
Prisoners	75% of all prison entrants in 2018 reported currently smoking with 67% smoking daily. Female prison entrants reported smoking at a higher rate (86%) than male prison

	entrants (74%). Those aged 18-24 were most likely to identify as current smokers (80%) [38].
People living with mental illness	Adults (18 and over) with mental illness in 2019 were twice as likely to be a current smoker than the general population. (24.2% compared to 12.9%) [8, 48].
People living with serious and persistent mental illness	For people with psychotic illness, prevalence of current tobacco smoking has been found to be up to 66% [49].
Indigenous/Aboriginal and Torres Strait Islander peoples	In 2018-19, 41% of Indigenous Australians aged 15 and over were current smokers [50]. This included 35% of Indigenous Australians living in non-remote areas and 49% of Indigenous Australians living in remote areas [50].
Low socio-economic status	In 2019, prevalence of current daily smoking among people living in the lowest socioeconomic areas was 18.1% [8].
Remote and Rural Residents	In 2019, the prevalence of current daily smoking was 13.4% in inner regional areas and 19.6% in remote and very remote areas [8].
LGBTQIA+	In 2019, 22.9% of people who identified as lesbian, gay or bisexual people reported being a current smoker compared with 13.5% of heterosexual people. Daily smoking prevalence was reported at 16.7%, compared with 10.7% [8].

Note: This table does not consider the overlap between groups due to the diverse data collections used. To illustrate, approximately 20% of people experiencing homelessness identify as Indigenous [39]. Aboriginal and Torres Strait Islander peoples also experience increased likelihood of incarceration compared to non-Indigenous peoples [38]. People living with severe and persistent mental disorders are at increased risk of living in areas of greatest socio-economic disadvantage [51].

Additional barriers to quitting

Addiction to nicotine can be difficult for people to overcome regardless of whether they are within the general population or a priority population [15]. The most common perceived barriers to quitting relate to losing enjoyment and relaxation provided by smoking, reduced ability to manage cravings and stress, habit, withdrawal symptoms and irritability, fear of failure and managing weight [15].

People in priority populations often have similar characteristics or circumstances that influence higher rates of smoking within those groups. These are:

- Social acceptability of smoking – Although non-smoking is now normalised in mainstream culture, in some communities and groups the opposite is true with high levels of acceptance of smoking as part of social norms and low levels of support from family, friends and community to quit [15, 52, 53].
- Living in areas of greater socio-economic disadvantage – As socio-economic disadvantage increases, smoking to manage stressful life factors and boredom increases [15, 54].
- Increased availability of cigarettes – Tobacco retail outlets are concentrated in areas of greatest socio-economic disadvantage [54]. This increased availability can mean that cigarettes are more accessible than other grocery staples, such as milk and bread,

in some areas. High levels of supply and access can make it harder for people who live in these areas to successfully quit [15, 54].

- Increased experiences of discrimination and trauma – Discrimination and trauma are more frequently experienced by people identifying as LGBTQIA+ [42] and Indigenous [41]. As well, staff working in Indigenous healthcare [55], mental health settings and prison systems [15] often identify the role of dealing with trauma in a professional capacity with their smoking habits [55].

Individuals who identify in more than one of these groups are likely to experience more barriers to quitting [47] and may need support over a longer period to achieve cessation. The examples below are selected to illustrate some of the complexities faced by people in these groups who smoke.

- Women who have experienced ongoing disadvantage, such as socio-economic disadvantage [13] are six times more likely to smoke during pregnancy [13, 47, 56]. In addition, these women are more likely to experience mental illness, with estimations that around 50% of women who smoke during pregnancy have depression or another common mental illness [12]. During pregnancy, 44% of Aboriginal and Torres Strait Islander women smoked in 2015 [56, 57], reducing to 43% by 2018 [58]. In addition, socio-economic disadvantage increases a woman's likelihood of living with a partner who smokes and of returning to smoking after birth, resulting in the majority of pregnant smokers being unsuccessful with quit attempts [12].
- Prisoners in Australia have a smoking prevalence of 75% [38]. In 2018, approximately 40% of prisoners had a mental illness, 33% had low levels of education achievement, 66% used illicit drugs in the year before imprisonment and 50% expected to be homeless on release [38]. Identifying as Indigenous increases an individual's chance of incarceration with just over one-third (38%) of prisoners identifying as Indigenous [38]. This group had an even higher incidence of smoking, lower levels of education along with higher rates of previous incarceration and family history of incarceration compared to non-Indigenous prisoners [38].
- Mental illness is associated with "higher poverty, lower education, and lower employment" [59] which are all risk factors associated with smoking [59]. SANE indicates that it is estimated that almost 40% of all smokers have a mental illness [60].
- Those who are homeless are more likely to experience mental illness [15] and the problematic use of alcohol and other drugs [40].
- Aboriginal and Torres Strait Islander people comprise approximately 3.3% of the Australian population (in 2016) [61]. Yet, with a smoking prevalence rate of 41% in the over 15 years old population [50], they represent just over 300,000 (or 12.5%) of Australia's remaining 2.8 million daily smokers [9]. They are more likely to be over-represented in lower socio-economic populations [15] including low-income, low education and low health outcomes [62] and are at high risk of incarceration which results through the mechanics of colonisation that have eroded power, social structures and community resources [38, 63]. In addition, the ongoing trauma and the impacts of colonisation are both a contributing and compounding factor to tobacco use [41, 55].

However, people in these groups often indicate keen interest and motivation for quitting. For example, 41% of Australian prisoners in 2018 who smoked indicated they would like to quit [38] and just over half of Aboriginal and Torres Strait Islander peoples had attempted to quit in

the 2017 year [64]. This would indicate that members of these groups might need more support to quit successfully.

People with chronic and serious health conditions

There are other priority populations identifiable by the immediate clinical consequences and higher risk profile of continued smoking. For example, women who are pregnant, people after diagnosis of cancer, cardio-vascular disease, HIV/AIDS, diabetes, before surgery, and people with a serious and persistent mental illness [65]. Quitting smoking at any time will improve health outcomes [66].

For example, smoking after a stroke increases the risk of another stroke and increases death risk three-fold [67]. The sooner smoking recommences, the risk of death within one year is increased [67]. Ceasing smoking significantly reverses these risks [67] and is more effective than pharmaceutical treatment of major risk factors [68]. In a study of smoking cessation and cardiovascular health risk, patients who advised they had ceased smoking after a first cardiovascular event lived on average five years longer [68]. However, one study in a Melbourne area in 2009 of stroke patients who smoked found the majority were still smoking five years after their stroke and that 40% could not recall receiving advice about smoking cessation in the time since their stroke [69]. The Stroke Foundation of Australia information and resources and the Royal Australian College of General Practitioners smoking cessation guidelines emphasise the need for successful smoking cessation for people with smoking related diseases to reduce the risks associated with heart disease and stroke [70, 71].

Studies investigating the relationship between smoking and mental illness have found that smoking cessation is related to improvement in mood and a reduction of anxiety, depression and stress within as little as six weeks for people with psychiatric disorders [37]. Another study estimated that smoking contributed to 21% of suicidal ideation in people with psychosis [37]. Despite these results, it is common for people with mental illness to believe that smoking is relaxing and therefore beneficial for their mental health [37]. Other studies report health professionals also commonly hold misconceptions including that smoking helps to manage symptoms such as depression [14, 15, 37] and that quitting will make symptoms worse [37] or that smoking cessation services, such as Quitlines, will not have the knowledge or capacity to handle mental health issues [15]. These beliefs may also be held by family members who encourage smoking on the basis that it is “their only joy” [15].

When health professionals hold misperceptions or do not take the opportunity to highlight the value of quitting smoking and offer support to do so to those people who most need it because of existing health risks and conditions, those people are less likely to be encouraged and supported to quit [18].

2. Product engineering misleads consumers into believing filters reduce harms

Filters, the cellulose plug through which smoke is drawn into the mouth, are widely used in manufactured cigarettes [19, 72]. For decades, cigarette marketing regarding filters has encouraged consumers to believe filters generally provide some type of protection by filtering out some of the harmful constituents of tobacco smoke [19, 72, 73]. Analysis of over 30 years of population-based incidence data in the US and Japan concluded that the adoption of filters in cigarettes may have only altered the most frequent type of lung cancer from squamous cell carcinoma associated with unfiltered cigarettes to adenocarcinoma [74].

More recently, the tobacco industry has designed other filter modifications, with filters being one of the last marketable differentiators of product [20]. These include insertion of flavour capsules into cigarette filters [21], ventilation holes in the filter paper [19] and recessed filters [20]. Ventilation holes convey a sense of 'lightness' or 'mildness' by increasing airflow [19], recessed filters move the stain on the filter away from the mouth to create a 'smoother' taste [20] and the addition of flavour capsules further increases palatability by disguising the taste of tobacco [19, 21].

However, the evidence strongly links ventilation holes in filters with increasing harms by causing deeper inhalation of both tobacco (as fingertips cover the ventilation holes) as well as inhalation of the toxic fibres present on the filter tips [19, 72]. Flavours are a tobacco industry strategy to grow its market [75] as flavours are more likely to attract young people who have not previously smoked [21, 75, 76].

Consumer misconceptions about filters reducing harms are common [19, 72]. Recent Australian trials found that between 48% and 58% of participants believed that the modified filters they tried trapped, hid and kept harmful substances from them [20]. Younger people who have not previously smoked ('never smokers') have been shown to believe the appealing 'smooth' flavours indicate a less harmful product [75].

Beyond the health impact, filters impact the environment as the majority are single use plastics [72]. A report by the National Drug Research Institute, Curtin University estimated in 2015-16 that litter removal of butts was estimated to cost Australia \$73.3 million. This did not include the estimated impact on wildlife injury and death from litter [9].

3. Rise in e-cigarette use could reverse youth non-smoking trends

The recent and continuing decreases in daily smoking rates have been mainly achieved by fewer younger people taking up smoking between 2001 and 2019 [8].

E-cigarette devices (regardless of whether they are vapes, e-pens, hookahs, personal vaporisers) are marketed as less harmful than smoking and also as helpful in reducing the number of cigarettes smoked or for quitting [8]. In the interval between the most recent National Drug Strategy Household survey in 2019 and the previous survey in 2016, e-cigarette smoking increased amongst smokers and non-smokers in nearly all age groups in Australia, with rapid growth in current use by young people aged 18-24 (from 6.8% to 18.7%) and 25-29 (3.6% to 13.7%) [8]. One in four people using electronic cigarettes identified themselves as a 'never smoker' when they first tried an e-cigarette, with 39% of younger people using e-cigarettes identifying as a previously 'never smoker' compared with less than 10% of people aged 40 and over [8].

This rapid rise in e-cigarette use by young people is concerning. E-cigarette products have the potential to addict teens to nicotine [77] and international evidence consistently suggests that e-cigarette use by non-smoking youth is a predictor of future smoking [24]. This could reverse the significant 80% reduction in smoking rates amongst teenagers since 2001 and reduce the never-smoked rates amongst young people [8]. There is evidence to suggest e-cigarettes also have the potential to increase the smoking prevalence by doubling the risk of former smokers relapsing [25]. The Australian government warns of emerging evidence linking e-cigarettes to severe lung illness [78].

Several factors are associated with this increase, including:

- Price – e-cigarettes are cheaper than regular cigarettes [8].
- Flavoring and packaging can be highly appealing to young people. With sweet flavours including donut, fruits and pancake flavours and brightly coloured packaging of liquids [8, 79], concerns are that children and adolescents do not fully understand what these products are [79]. Figure 1 and Figure 2 illustrate this type of packaging.

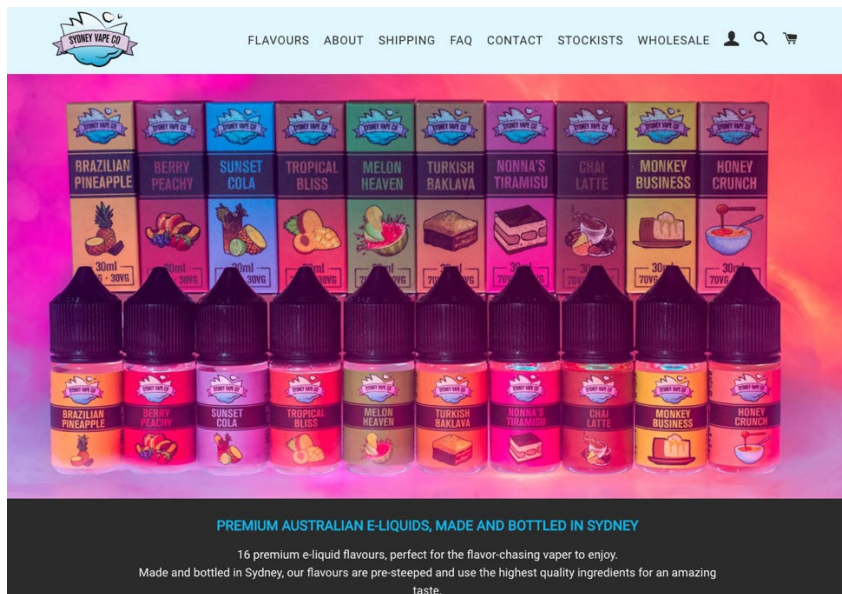


Figure 1 – Example of packaging styles of non-nicotinic liquids

Source: www.sydneyvapeco.com.au, 12 July 2021

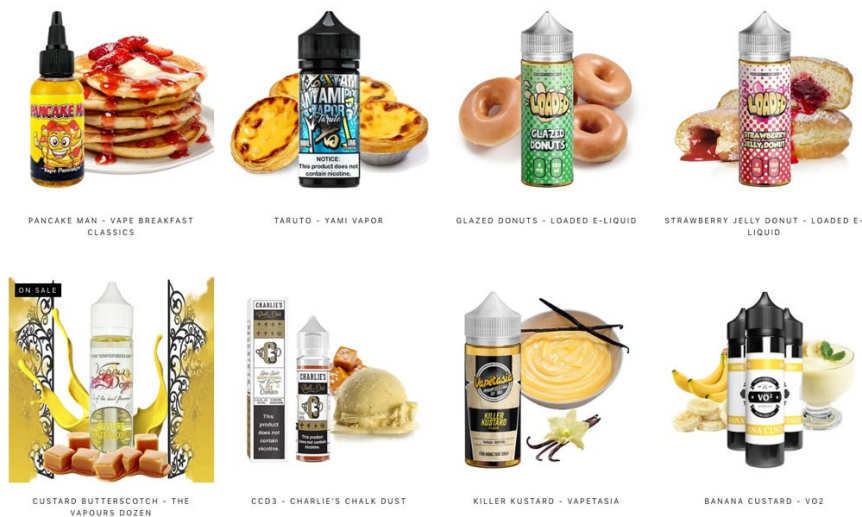


Figure 2 – Example of non-nicotinic flavours

Source: https://vapeworldaustralia.com.au/collections/e-liquid/dessert?sort_by=best-selling, 12 July 2021

Summary

- Smoking continues to impose a high cost and burden on the health of individuals, particularly those in priority populations, and the overall health system.
- Renewed efforts to increase smoking cessation by individuals and within priority population groups in particular is required to achieve the smoking prevalence target of 5% or less in adults by 2030.
- Some groups in Australia have smoking prevalence rates well above the 11% average. These priority populations need more and tailored supports to quit through public health measures, and particularly from healthcare professionals.
- Misperceptions about cigarette filters provide a false sense of security about reducing the harms of smoking.
- Flavoured e-cigarette liquids and flavour capsules in filters entice young smokers to begin smoking habits, often through the misperception that these products are less harmful. The packaging of e-cigarette liquids is enticing for young people.
- E-cigarette use is rapidly rising, especially in young people, with the potential to reverse non-smoking trends.

The next section outlines interventions that have been shown to be effective in addressing these issues.

The evidence

Many peer-reviewed studies have focused on gaining an improved understanding of the additional barriers faced by smokers in specific priority populations (e.g., systemic reviews by Bryant et al. 2011 and Twyman et al. 2014) as a basis for developing insight to improve the effectiveness of interventions for these groups [15, 80]. Examples of identified barriers include:

- widespread social acceptability of smoking in low-income areas [15, 52] particularly as a response to boredom and financial stress [15, 54];
- beliefs that smoking is helpful in managing mental health conditions and disorders [14, 15]; and
- discrimination and trauma as trigger for smoking [42].

The evidence strongly suggests that smoking cessation interventions are most effective when whole of population approaches are combined with evidence-based pharmacological and behavioural smoking cessation support for individuals. This approach can be easily focused to better include priority populations and tailor supports [18]. For example, tailoring behavioural supports such as Quitline to the specific needs of various priority populations [18, 81].

The interventions included in this section have been identified as the most effective to benefit and support the general population, build upon existing resources and health systems, and be readily tailored to priority populations as necessary and as part of a comprehensive approach to tobacco control.

The evidence outlines how healthcare services can be supported to improve smoking cessation attempts and outcomes. Most Australian residents (83% in 2018-19) see a GP in a 12 month period [82] and building pro-active and targeted smoking cessation support into primary health care is a particularly efficient and effective way to reach individuals, reinforce smoking cessation messages and connect all smokers to programs and supports.

1. Whole of Population Interventions

Whole of population interventions, such as policy, regulation and mass media campaigns, work together. Whilst some groups respond to some interventions more than others, collectively the range of whole of population interventions have established non-smoking norms across most of Australia [2, 3]. The benefits of these interventions sometimes are assessed against socio-economic status or age bracket of population groups that respond [56]. The selected examples below illustrate the types of interventions and how they can influence different groups in society and improve outcomes for priority populations.

- Policy – Smoke-free policies, such as smoke-free sporting events and hospitality venues, continue to normalize non-smoking messages for everyone and support all smokers to give up [27]. Smoke-free pubs and clubs have been impactful with people living in areas of greater socio-economic disadvantage, with smokers reporting up to 40% reduction in their consumption of cigarettes [83].
- Regulation – Significant increases to the cost of cigarettes through taxation [83] has a greater impact on low-income smokers who have less disposable income [83], and youth, whose price sensitivity is one reason attributed to the recent growth in e-cigarette use by this group [8]. However, other analysis notes price increases as critical to reducing smoking prevalence across the population [84]. As noted previously, people

living in areas of greatest socio-economic disadvantage often find the proliferation of tobacco retail outlets in these areas a barrier to successful quitting. However, the complexity of introducing significant reforms in each state and territory reduces the feasibility of reducing retail outlet licensing. To illustrate, Queensland and Victoria presently do not have a retail licensing scheme for the sale of tobacco [85].

- **Mass Media Campaigns** – Educational campaigns about the harms of smoking have had deeper impact on smoking cessation in population groups with higher levels of socio-economic advantage [86]. They continue to raise overall health literacy, improve the level of awareness about the harms of smoking and increase engagement across the whole population [86]. Media campaigns containing more emotional content and personal testimonials have been shown to be more effective in prompting people living in areas of greater socio-economic disadvantage to quit [83, 86]. The frequency of exposure to campaigns also makes a difference with increased frequency associated with increasing the likelihood of quitting [83, 84].

Tailoring mass media campaigns and support for priority populations

Mass media campaigns are cost effective as they have wide reach across the population [87]. Recent tobacco strategies (2004-2009 and 2012-2018) have emphasized the role of mass media campaigns in discouraging the uptake of smoking and increasing quit rates and the continued need to strengthen efforts to reduce smoking amongst priority populations [18, 88-90]. The National Preventive Health Strategy 2021-2030 set policy priority goals for 2030 that include ongoing development and implementation and funding of mass media campaigns to support smoking cessation and reshape social norms about tobacco and are adapted to local need, together with reduced tobacco use among populations with high rates of tobacco use and those at higher risk of harms from tobacco use [3, 11].

Previous mass media campaigns have included priority populations under the ‘More Targeted Approach’, that ran between 2011 and 2014. Under this program, content was tailored to culturally and linguistically diverse audiences, people with mental illness, prisoners and released prisoners and Aboriginal and Torres Strait Islanders [30]. From 2015 to 2017, campaigns focused on Aboriginal and Torres Strait Islanders, with ‘Don’t Make Smokes Your Story’, ‘Break the Chain’ and ‘Quit for you, Quit for two’ [30]. Importantly, these campaigns collaborated with peak bodies to engage with and reflect the priority populations targeted [30].

It is widely acknowledged that campaigns work together with other policy initiatives and campaigns targeting priority populations to support smoking cessation [90, 91]. To illustrate, whilst Indigenous smoking rates in 2018-2019 are still higher than the mainstream population (approximately 41% [50] compared to 11% [8]), they are declining at approximately the same rate as the general population [41] (see Figure 3 on page 15). This would indicate that priority populations are as responsive as mainstream populations to smoking cessation interventions and supports (when they are provided).

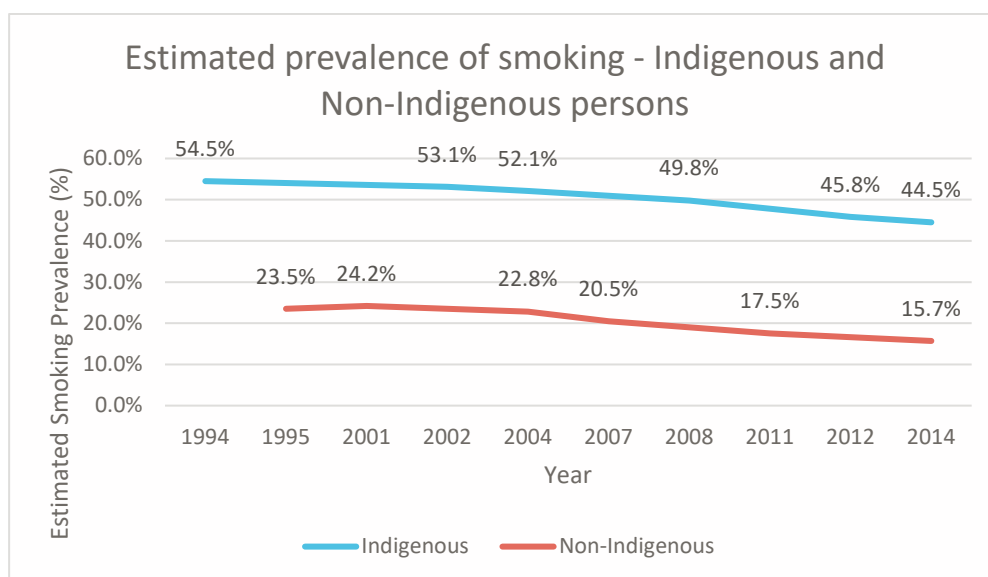


Figure 3 – Estimated prevalence of current smoking among Aboriginal and Torres Strait Islander adults and non-Indigenous persons aged 15+, 1994-2019

Source: Reproduced from *Tobacco in Australia* using data from Australian Bureau of Statistics

The Tackling Indigenous Smoking Program is funded to 2022 and includes Tackling Indigenous Smoking teams across most of the country, Quitline enhancements, local health worker intervention training and grants to support remote and very remote areas with local initiatives [28], such as campaigns representing local faces and local places [28]. The 2018 evaluation report of the program found the flexible design and place-based, population health approach of the program had enabled localised health promotion and multiple social marketing campaigns targeting diverse priority groups. Overall, the program had enabled considerable progress in tobacco control and quitting supports. The evaluation report considered that expansion of the Tackling Indigenous Smoking program nationally could support more Aboriginal and Torres Strait Islander peoples across the country to be smoke free [29].

Despite the evidence that mass media campaigns are a cost-effective way to reach all segments of the population [87], and can be readily tailored with inclusive content, federal investment in mass media televised campaigns has fallen substantially over the past 10 years to 20% of the level of 2010-2011 funding [91] with state-based funding also declining substantially in recent years [18].

2. Evidence-based Smoking Cessation Interventions

Evidence-based treatment to assist people with tobacco dependence and increase their success in quitting smoking comprises pharmacological interventions combined with behavioural interventions. These smoking cessation supports are widely available in Australia in the form of subsidised pharmacotherapy (stop smoking medications and products, such as Nicotine Replacement Therapy (NRT) including patches, lozenges etc.) and Quitline support [18]. Use of multiple sessions of behavioural support, such as that provided by Quitlines, in combination with pharmacotherapy increases the chances of successful quitting by 258% [18, 92]. Adding Quitline support to pharmacotherapy increases successful quit rates by a minimum of 10% and up to 25% [18, 93]. Yet, of the 265,544 Australians who used Pharmaceutical

Benefits Scheme (PBS) medicines for smoking cessation in 2019/2020, only 52,000 were in contact with Quitline in 2019 [94]. This suggests many people are missing out on the most effective combination of evidence-based smoking cessation support to quit. Primary care is the most common point of health care contact for most of the Australian population. Current RACGP guidelines advise that evidence-based treatment for smoking cessation is multi-session behavioural intervention combined, if clinically appropriate, with pharmacotherapies approved by the Therapeutic Goods Administration (TGA) [99]. However, low rates of general practitioner (GP) advice about and treatment to support tobacco cessation are reported. Specialist health care for health conditions that are related to or potentially exacerbated by smoking has been shown to lack knowledge, training and time to treat and support smoking cessation by patients. Lack of a systematic healthcare focus, through both primary health care and specialist health care, on tobacco cessation support and evidence-based treatment presents a substantial challenge to the national aim to reduce smoking prevalence throughout the population. A national treatment strategy to provide training for health professionals, to ensure consistent information and advice on evidence-based treatment approaches and to incentivize and monitor a systematic approach to advice and treatment has been proposed [15].

Although e-cigarettes are not a proven smoking cessation support, Australia has instituted prescription only access to all nicotine e-cigarette or vaping products and this also prohibits the sale of these products through other retail outlets such as tobacconists and convenience stores.[95]. E-cigarette use is not considered a first-line treatment approach and current advice is that it should be considered (used alongside behavioural intervention) only when all other cessation supports have failed [70, 96]. To date the TGA has not approved any nicotine based e-cigarette as a safe, high quality and effective treatment.

Access and priority populations

The evidence demonstrates that many people in priority populations who smoke could benefit from more support to quit. Where studies have been undertaken, they demonstrate members of priority populations are able to quit and gain benefits from quitting. In many cases, the supports are usually already widely available and can be tailored to individual health and social needs. For example, multiple studies have demonstrated that Quitline staff can be trained to meet the specific needs of people in priority populations to tailor support [18, 81]. This assists in helping people within these groups overcome their unique barriers to quitting while also delivering a cost-effective behavioural intervention across the population, including remote and rural areas.

Peer-reviewed evidence strongly suggests this approach increases quit success with a wide variety of priority populations as illustrated by the examples below.

- People living with greatest socio-economic disadvantage – An American study found direct, tailored invitations to socio-economically disadvantaged smokers and follow up by health professionals to participate in smoking cessation services combined with free cessation support, including Quitline counseling and pharmacological supports, such as NRT achieved significantly higher long term cessation results than usual care [97]. The relevance of free pharmacological support is important in helping low-income smokers afford cessation support as well as targeting a frequent cause of financial stress, the increasing cost of cigarettes, that are often prioritized over food and bills by low-income smokers [98]. Ten years ago, the Australian government included heavily subsidised NRT under the PBS [16]. Recent data (2018) shows 78% of prescriptions

are provided to concession card holders, who typically meet low-income criteria, indicating a strong willingness from this group to seek help from doctors [16].

- People experiencing homelessness – An Australian study found a similar approach, combining nurse visits with Quitline counselling and pharmacological support, achieved good outcomes with homeless populations. Although cessation was low, 50% reduction in smoking was achieved as well as financial savings and improvement to mood, including reduced anxiety [99].
- People with chronic and serious health conditions – Studies with hospital patients attending for chronic diseases and serious health conditions found similar interventions were effective [65]. When cessation was provided by doctors and nurses during the patients' stay with follow up, connection to Quitlines as appropriate and free pharmacological support, cessation results at 6 months increased [65].

These studies demonstrate the value of intensive support, particularly through combining behavioural support via Quitline with free pharmacological support for those in priority populations.

Most Australians including those in priority populations in Australia have contact with healthcare services, particularly primary care. The RACGP smoking cessation guidelines and the Pharmaceutical Society of Australia guidelines [100] both emphasise the importance of offering smoking cessation support to all smokers. However, people in priority population groups who smoke report that they are neither asked about their smoking nor prompted to use the available smoking cessation supports by health service providers [18].

Adopting system-wide practices in the health network, such as the “Ask, Advise, Help” model of brief advice [101], could increase the use of cessation services and supports by people who smoke [18]. Literature from Australian peak bodies (such as ANPHA [83] and CIRCA [29]) echo the need for smoking cessation to be integrated in all healthcare, specifically noting the benefit to priority populations. The studies above reinforce the value of taking all opportunities to use contact with healthcare services to prompt and begin smoking cessation, regardless of the primary reason for the contact.

Evidence-based pharmacological treatment options supported through the PBS. Enabling combinations of these options and including behavioural interventions as routine treatment options is supported by evidence and has been proposed [18, 93].

3. Interventions - Product Engineering (Filters)

Following the introduction of legislation requiring plain packaging of cigarettes, tobacco manufacturers have relied on filter innovations to differentiate cigarette products to consumers. The introduction of filter ventilation to cigarettes began in the mid-20th Century, initially following industry endeavours to reduce the health harms of smoking. Whilst filters were not found to reduce health harms, studies have shown that filter ventilation developed as a pervasive industry marketing strategy [73].

A 2014 report by the USA Surgeon General on smoking and health considered that the introduction of filter ventilation to lower smoking machine tar levels was implicated in an increase in lung disease and caused a false perception that filtered smoking reduced health risk and there are a large number of studies identifying that health harms of filter ventilation include increased smoke toxicants, increased smoke inhalation and false perceptions of lower health risks [19].

There is evidence that public perception of filters in cigarettes is low and that there is little awareness of the potential health risks of filters. Analysis of data collected in 2018 in the 4th wave of the International Tobacco Control Four Country Smoking and Vaping Survey showed more than half of all smokers in Australia, Canada and the United States believed that smoking light cigarettes offered health benefits [102] and that few smokers realise that their cigarettes almost certainly are vented. Smokers who believed their cigarettes have filter ventilation were more likely to believe they were both smoother and less harmful [103].

Effectively addressing consumer misconceptions about product engineering (modifications to filters such as ventilation holes, recessed filters, flavour capsules) and the harms to health is an emerging area for policy attention. Two jurisdictions with filter restrictions under consideration are New Zealand as part of their Smokefree 2025 Action Plan [22] and New York State [23]. New Zealand's plan includes development of a regulatory scheme to reduce the addictiveness and appeal of smoked tobacco products and to minimize the impact of filters on 'human health and the environment' the use of mass media and social media campaigns to support the initiative [104].

These policy initiatives to remove filters in cigarettes are based on:

- reducing the addictiveness and appeal of nicotine [104];
- addressing the misconception that filters offer any protection [23, 104]; and
- aligning with environmental policy reforms banning single use plastics [23, 104], such as those being implemented in a number of Australian states and territories [105].

New Zealand's Smokefree Aotearoa 2025 Action Plan includes planning introduction of legislation to require very low nicotine levels in smoked tobacco products for manufacture, importation, distribution and sale and to restrict product design measures aimed at maintaining or enhancing the appeal and addictiveness of smoked tobacco products. The Plan also proposes work across government to consider how best to restrict the use of filters. [104]p23].

4. Interventions - Youth Smoking

The increased use of e-cigarettes, particularly by youth and young people, has been identified as a 'gateway' into smoking with the potential to reverse previous achievements in reductions in smoking, especially among youth smoking.

E-cigarette use is associated with being a cheaper option in Australia [8] as well as an availability issue, with these products widely available due to aggressive industry marketing expansion [106-108] as well as variation in regulation and enforcement across Australia [109].

Reductions in Australian smoking rates have been associated with the increased cost of cigarettes. However, this may also have contributed to an increased rate of smoking of cheaper alternatives, such as roll-your-own [110], and more recently, e-cigarettes [8].

Regulatory interventions are suitable methods to address these two issues. In New Zealand, under the Smokefree Aotearoa 2025 plan, regulation of vaping products is intended to help prevent the uptake of vaping by children and young people with funding of a health promotion program to deter young people from doing so. The Plan proposes legislation to restrict who can sell smoked tobacco products and ensure that retailers are not clustered in New Zealand's most disadvantaged communities and to reduce the number of young people who start smoking through prohibition of the sale of smoked tobacco products to people born after a specific date. [104].

The Australian regulatory context differs, as the sale of tobacco, e-cigarettes and vaping liquids (including non-nicotinic liquids) is inconsistently regulated across states and territories [109]. Retail outlet density is not presently regulated with more outlets common in areas of greater socio-economic disadvantage. Developing a national licensing scheme that stipulates the conditions for holding a license, regulates minimum pricing across all tobacco and vaping products, and density of outlets would require significant effort to align all Australian states and territories arrangements. In a 2002 report commissioned by the then Department of Health and Ageing by the Allen Consulting Group [111], licensing of tobacco sellers was considered to have both economic and public health benefits. The report considered the varying approaches to licensing and non-regulation of tobacco sales in states and territories. The report argued that licensing schemes exist to minimize the potential social harm caused by particular products and services, with contemporary examples being the liquor and gaming industries, with numerous other schemes in place to ensure public safety and public health for activities with the potential to cause harm, such as food retailing, tattooing and body piercing. The report proposed that tobacco distribution met two criteria that justified licensing – that it provided a cheap and effective means of averting exposure to an addictive substance that could be difficult or costly to reverse; and, given that tobacco has no safe level of usage, licensing would address the risk posed by economic externality of harm that is unrelated to the scale of a business activity.

The report further argued that government intervention in the tobacco market is readily justified as a deterrence to adolescents and a protection for non-smokers. Consistent licensing of tobacco sales in Australia would provide significant benefits by reducing the opportunities for young people to access tobacco and e-cigarette products and improve the capacity to enforce non-compliance. Currently, licensing provisions apply in 5 jurisdictions within Australia.

Summary

- As part of a comprehensive approach to tobacco control, broad population interventions provide the foundation to support all smokers to quit, prevent relapse and deter young people from starting smoking. In the Australian context, investment in mass media has been highly effective in reducing smoking rates throughout the population and should be sustained.
- Pharmacological support combined with behavioural counselling is an effective evidence-based whole of population intervention. It has been shown to be effective with a wide range of priority populations.
- Despite evidence of the importance of smoking cessation for health and reduced health risk for priority populations and the high proportion of at least annual contact with primary care health services, people in priority populations who smoke report low rates of medical advice about and support to quit smoking. This particularly disadvantages priority population groups and exacerbates inequities in tobacco use and tobacco related health outcomes and is a significant impediment to achieving the national aim to reduce smoking prevalence nationally to 5% or less. Lack of a systematic healthcare investment in tobacco cessation support and evidence-based treatments presents a substantial challenge to the national aim to reduce smoking prevalence throughout the population.
- Broad population education on the harms of filters is emerging as an additional strategy to prompt smoking cessation and deter uptake.

- National regulation and licensing would offer a means to address rising e-cigarette use by young people and support smoking cessation more broadly.

Policy Options

Three areas for policy action arise from the evidence discussed in this paper that would create significant impact towards achieving the 2030 national target of a 5% smoking prevalence rate.

Mass media campaigns

Mass media campaigns have been consistently effective over decades in engaging individuals and communities in awareness of the harms of smoking and in stopping smoking. Investment in mass media is highly effective and is an essential strategy to reach all segments of the community. There is strong support from evidence and from academic and advocacy sectors for resumption of a sustained program of mass media campaigns in order to achieve a national target of 5% or less in adults (≥ 18 years) daily smoking prevalence throughout the population. Resumption of a program of campaigns should reflect previous programs, recognising that campaigns are most effective when conducted frequently, tailored to the target population groups and in combination with other policy initiatives. These initiatives should include access to supported smoking cessation interventions and specifically tailored campaign strategies for priority population groups and particular geographic and socio-economic communities with higher prevalence rates of continued smoking. As part of a comprehensive approach to tobacco control, mass media campaigns need to support smokers to quit, prevent relapse and to deter young people from starting smoking. To ensure that priority populations are fully engaged and supported, campaigns should be developed through consultation with those population groups and with positive, diverse, and inclusive role modelling that is reflective of the challenges experienced by and the evidence of what works effectively for priority populations. In the light of evidence that misperceptions about cigarette filters, flavoured e-cigarette liquids and flavour capsules in filters reduce awareness of the harms of smoking, campaigns could address those misperceptions and redress common assumptions about the benefits of filters and flavour additives.

Embed Smoking Cessation into Routine Health Care

Pharmacological support combined with behavioural counselling has been shown to be effective in supporting smoking cessation and particularly for a wide range of priority populations. The PBS and Medical Benefits Scheme (MBS) subsidies should be expanded to include combinations of pharmacotherapies with behavioural interventions.

Low rates of health advice about, and support to, quit smoking among priority population groups should be addressed through systematic support for medical services, both primary and specialist care, to embed smoking cessation advice and access to evidence-based treatment in all routine health care with particular focus on priority population groups. The brief advice model of “Ask, Advise, Help” [101] provides a useful framework that could be promoted and specifically supported..

Funding support for pro-active engagement of, and training incentives for, healthcare staff specific to smoking cessation and priority populations should be considered to support inclusion of smoking cessation in all routine healthcare, including education in culturally safe

and appropriate smoking cessation interventions for Aboriginal and Torres Strait Islander peoples.

National Retail Licensing Scheme

A national retail licensing scheme would provide for licencing tobacco and e-cigarette retailers and wholesalers. This would enable regulatory measures to facilitate reduced density of retail outlets, particularly among population areas with high rates of smoking. It would also facilitate monitoring compliance with tobacco control laws including enforcement of laws banning the sale of tobacco and non-nicotine smoking products to minors,.

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Mitchell Institute for Education and Health Policy
300 Queen Street, Melbourne, Victoria 3000
+61 3 9919 1820
info@mitchellinstitute.org.au
mitchellinstitute.org.au