

Challenges and opportunities associated with e-cigarettes in Australia: A qualitative study

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Abstract

Objective: The use of e-cigarettes in Australia has increased significantly in recent years. To assist with identifying policy and practice priorities, this study sought to provide a greater understanding of the population-level challenges and opportunities associated with these products.

Methods: Semi-structured interviews were conducted with 34 public health experts working in tobacco- and/or nicotine-related policy, practice and research. Interview transcripts were subject to reflexive thematic analysis.

Results: Several challenges associated with e-cigarettes were identified, with uptake of use among youth, the potential for use to lead to smoking and industry interference the most frequently mentioned. Recommended means of addressing these challenges included improved regulation and increased enforcement of existing laws. Most interviewees acknowledged some potential for e-cigarettes to assist with smoking cessation.

Conclusions: Despite strong restrictions on e-cigarettes in Australia, experts working in this field reported that these products, and the companies behind them, present several challenges to public health.

Implications for public health: Tighter regulation and increased enforcement are needed to address the challenges posed by e-cigarettes. Controlled access to liquid nicotine under a pharmaceutical model offers an opportunity for smokers to access the behavioural support that may help them to quit while also restricting e-cigarette availability.

Key words: electronic cigarettes, policy, public health, industry interference

Introduction

Use of novel nicotine products such as electronic cigarettes (e-cigarettes) is increasing globally.¹ This growth in use is of concern given these products have been found to contain numerous toxicants (including carcinogens) that can be harmful to health.^{2–4} A recent systematic review of the worldwide evidence on the health effects of e-cigarettes found that among non-smokers, there is strong evidence that use of e-cigarettes has multiple health harms and no health benefits.⁵ For smokers, the reviewed evidence indicated that e-cigarettes may be beneficial to those who use the devices to quit smoking ‘completely and promptly’. However, the overall benefit of e-cigarettes for smoking cessation was deemed uncertain and the authors of the review noted that better evidence is needed on the quality, safety and efficacy of the devices as cessation aids and the impacts of use on clinical health outcomes.

There are several risks associated with e-cigarettes that extend beyond direct health harms. First, a considerable body of evidence

indicates that e-cigarette use acts as a gateway to tobacco cigarette smoking, with a recent meta-analysis concluding that non-smokers who use e-cigarettes are approximately three times more likely than those who avoid e-cigarettes to initiate tobacco cigarette smoking and become current smokers.⁶ Second, prevalence of ‘dual use’ (i.e. consumption of both e-cigarettes and tobacco cigarettes) is high,⁷ with this pattern of tobacco use found to be the most common.⁸ Such use is problematic as complete abstinence from smoking is required to achieve optimal health benefits.⁹ In addition, while some dual users successfully quit smoking and switch to exclusive e-cigarette use, the majority transition to exclusive smoking.¹⁰

Third, recent years have seen rapid and substantial increases in youth e-cigarette use, which is likely attributable to the youth-appealing nature of e-cigarette flavours, product packaging, and promotion.^{11–15} Uptake of use in adolescents and young adults is particularly problematic given the impact of nicotine exposure on brain development.¹⁶ Finally, although marketed as an effective smoking cessation aid, research suggests e-cigarette use may drive former

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smokers back to combustible tobacco cigarettes, with the aforementioned meta-analysis finding that former smokers who use e-cigarettes are more than twice as likely to relapse than former smokers who do not use the devices.⁶

Based on the evidence to date, the World Health Organization has expressed significant concerns about e-cigarettes, calling for a precautionary approach to be applied to regulatory efforts.¹ This approach encourages action to prevent the harms associated with e-cigarettes given ongoing uncertainty about the benefits and long-term risks associated with use of these products. Australia, the context of the present study, is one of the few countries in the world to adopt this approach, with the purchase of nicotine-containing e-cigarettes and e-liquids without a prescription from a medical practitioner prohibited in all Australian States and Territories. Despite this, lifetime use of e-cigarettes increased between 2016 and 2019 among adult smokers (31% vs. 38%) and non-smokers (5% vs. 7%).¹⁷ Prevalence rates also increased among adolescents and young adults (14% in 2016 vs. 18% in 2019).¹⁷

Given strong restrictions on the sale and use of e-cigarettes in Australia, the observed growth in use, especially among non-smokers and youth, is concerning and warrants immediate attention. To assist with prevention efforts, the present qualitative study sought to provide a greater understanding of the population-level challenges and opportunities associated with e-cigarettes by interviewing public health experts working in tobacco and/or nicotine research, policy and practice. Specifically, this study aimed to explore:

1. The challenges posed by e-cigarettes
2. Potential means of addressing the challenges associated with e-cigarettes
3. The opportunities presented by e-cigarettes in terms of smoking cessation.

Method

Recruitment and participants

This study was approved by a university Human Research Ethics Committee. Participants were (i) public health intervention developers, (ii) researchers, (iii) public servants and (iv) health practitioners working in tobacco- and/or nicotine-related policy, practice and research in Australia (please see Table S1 in the online supplementary material for a description of each participant type). Purposive snowball sampling was used to recruit participants. Recruitment first involved identifying (i) authors publishing peer-reviewed e-cigarette or tobacco research and (ii) those involved in tobacco control program and policy development/implementation. Those interviewed were then asked to nominate other individuals working in the area. To ensure diverse perspectives were sought, interviewees were asked to identify experts who could offer an alternative viewpoint to their own. Data collection ceased when novel information was no longer identified during interviews.¹⁴

The sample comprised 20 women and 14 men, and included 12 public health intervention developers, 11 researchers, 8 public servants and 3 practitioners. Multiple non-government and government organisations were represented in the sample but are not identified to protect participant anonymity. All interviewees were asked to declare any conflicts of interest. No interviewees reported receiving funding from the e-cigarette or tobacco industries.

Procedure

All interviews were conducted from March to May 2021 by MJ using online videoconferencing facilities. Interviewees were asked a series of questions relating to tobacco control and novel nicotine products; however, only responses to questions relating to the latter (presented in the online supplementary material) were of interest to the present study. Interviews were semi-structured, with topics covered in the order in which they naturally arose. They ranged in duration from 25 to 77 minutes ($M = 46$ minutes).

Analysis

Interview audio-recordings were transcribed verbatim by an ISO-accredited transcription agency and the transcripts subsequently imported into NVivo. They were then subject to reflexive thematic analysis, which involved data familiarisation, data coding, and theme development and revision.¹⁸ A semantic approach to analysis was adopted, with coding and theme development reflecting the explicit content of the data and interviewees' reports accepted as accurate representations of their thoughts and behaviours. This analytic approach is data-driven, not theory-driven¹⁸ and is appropriate for circumstances in which the aim is to develop insights that reflect the issues of most importance to participants.¹⁹ Coding was undertaken by one researcher (MJ) as is customary for reflexive thematic analysis.²⁰

Results

Challenges posed by e-cigarettes

Several challenges relating to e-cigarettes were raised by the interviewees, with the most frequently reported challenges including (i) the appeal and uptake of e-cigarettes among youth and subsequent risk of tobacco smoking initiation, (ii) industry interference, (iii) e-cigarette marketing and advertising and (iv) problematic product features such as inaccurate labelling. Other challenges raised, albeit less frequently, included the ease with which e-cigarettes can be accessed, the unknown long-term health risks associated with use and illegal importation and sale of e-cigarettes containing nicotine.

Youth appeal, uptake and gateway to smoking

The most common challenge, raised by most interviewees ($n = 28$; 82%), was the appeal and uptake of e-cigarettes among youth and the potential for use to act as a gateway to smoking. Interviewees expressed concerns that e-cigarettes were designed to be especially attractive to youth and "wouldn't look out of place in a lolly shop". Their brightly coloured packaging and numerous flavours were cited as being particularly problematic drivers of youth uptake. Concerns were also raised about the extent to which e-cigarette use had infiltrated high schools. Finally, e-cigarette use among youth was considered a threat to existing tobacco control efforts given evidence linking use to subsequent uptake and regular use of tobacco cigarettes.

Oh, there's no question again we're seeing products that are being designed to be attractive to children and young people. They're slick. They're sleek. They're the sort of things that people want to be associated with, that kids and young people want to be associated with, that give them a bit of a kick in terms of being able to blow out different bits of smoke here and there. [IG_11, researcher]

Also, in the background, just the broader issues concerned with tobacco control and the knowledge of how use of e-cigarettes, whether they've got nicotine or not, was feeding into, potentially, undermining a lot of the work that had been done to try and reduce tobacco use...the evidence that there were people— particularly young people—using electronic products and then potentially moving across to tobacco products, which obviously is completely undesirable from a public health perspective. [IG_28, public servant]

Industry interference

The activities of the e-cigarette industry and other commercial interests were considered a challenge by most interviewees ($n = 22$; 65%). Concerns were raised that those with vested interests were shaping public health discussions related to e-cigarettes, resulting in the selective presentation of evidence and dissemination of misinformation. It was noted that the e-cigarette and tobacco industries were presenting themselves as sources of health advice and part of the solution to reduce smoking rates, which is at odds with their attempts to normalise e-cigarette use and addict a new generation to nicotine. Interviewees also commented on industry attempts to influence the evidence base by producing research via third-party organisations and/or funding researchers.

... you've got the industry saying they want to be part of the solution, so they need to be at the table, and industry saying, Philip Morris, want to be part of a smoke free future, and of course they're not doing anything to promote it to children. I mean it's just extraordinary actually, the gall with which they say that, and it's exactly the way it was when they had Joe Camel prancing across the billboards saying 'we're not about promoting it to children'. Now they've got sweet berry flavoured vaping juice. [IG_27, public servant]

They're funded to influence the evidence base. So if you can drop a billion dollars into e-cigarettes and vaping research then you're going to see that ripple effect change the overwhelming body of evidence because we just don't have a billion dollars laying around. [IG_42, researcher]

Another industry activity deemed problematic was the active and “aggressive” lobbying for e-cigarettes to be considered consumer goods and thus openly available to non-smokers. Some interviewees noted that those with vested interests have a legal obligation to shareholders to influence policy in a manner that supports their commercial interests and prioritises investor returns over the health of the public. The political lobbying in which the e-cigarette and tobacco industries engage was described as “relentless” and interviewees expressed concerns that e-cigarettes and other nicotine delivery devices were being used by industry to circumvent Article 5.3 of the World Health Organization’s Framework Convention on Tobacco Control (FCTC). Concerns about this type of industry interference were particularly evident when interviewees were asked for their views on government-funded inquiries into novel nicotine products, with most believing the inquiries were the result of “intense”, “well-resourced” and “very effective” industry lobbying. Interviewees reported that the inquiries provided an opportunity for those with vested interests to be given a platform to promote their agenda and influence government policy, and were a poor example of public health policymaking. There were also concerns that the 2020 *Select Committee on Tobacco Harm Reduction* was in breach of Article 5.3 of the FCTC, with interviewees noting the

involvement of a political party in receipt of funding from the tobacco industry.

A few interviewees ($n = 3$; 9%) held favourable views about inquiries into novel nicotine products. These interviewees noted that the inquiries were useful for highlighting current evidence, accessing the views of various stakeholders, and getting people thinking about what should be done in relation to e-cigarettes.

It allowed and enabled evidence to get on the table and it highlighted to a number of us what's going on. So, in a way that was really useful... It brought out some of the key stakeholders in terms of putting their, getting them to think again about it. [IG_36, public servant]

Marketing and advertising

Most interviewees ($n = 22$; 65%) commented on the challenges associated with the marketing of e-cigarettes. These challenges related to (i) internet advertising, (ii) marketing to youth and (iii) the inadequacy of the Tobacco Advertising Prohibition Act (TAP Act). In terms of internet advertising, interviewees commented on the difficulties associated with monitoring and controlling online promotional material and other below-the-line advertising approaches. With respect to youth marketing, interviewees expressed concerns about industry’s “blatant” and “strategic” marketing to youth via social media platforms, promotional material, and product placement (e.g. the use of social influencers). Finally, in terms of the TAP Act, interviewees noted that the definition of tobacco product advertising detailed in the Act needed updating to reflect novel products and means of advertising.

They are marketed not just through direct advertising but through all kinds of indirect promotion, whether it's Instagram or TikTok or this or that, through media that appeal to young people over which there are no controls and there's precious little monitoring. [IG_11, researcher]

It is concerning in that there's no marketing controls in the same way that there is on tobacco because the Commonwealth haven't moved with any TAP Act restrictions yet ... [IG_33, public servant]

Problematic product features

Around half of the interviewees reported on the challenges associated with various features of e-cigarette products ($n = 19$; 56%). These challenges related to (i) manufacturing methods and product labelling, (ii) flavourings and (iii) the cost of the devices. In terms of manufacturing methods and product labelling, interviewees expressed concerns about the lack of safety and quality controls over product manufacturing and the inaccuracy of e-liquid labels, noting that a substantial proportion of e-liquids labelled as being nicotine-free had been found to contain nicotine. Several challenges relating to e-cigarette flavourings were raised, including abuse liability and increased potentiation of nicotine. There were also concerns about the health risks associated with using flavoured e-liquids. Finally, in terms of device cost, some interviewees noted that disposable e-cigarettes were inexpensive to purchase. This was believed to increase their appeal, especially among youth.

...what we know from the compliance activity that goes on is that lots of the e-cigarettes out there that claim not to contain nicotine in fact do contain nicotine ... [IG_33, public servant]

For the Therapeutic Goods Order 110 submission, what we're suggesting is flavours are bad ... They increase abuse liability, they

have their own toxicology risks, they potentiate nicotine. [IG_10, public health intervention developer]

... there was a high economic barrier to entry when you needed to use refillable - the old tank systems. You've got to invest \$120 or something to buy yourself a system. Then, that was a barrier to entry. But with pod-like devices that economic barrier to entry has gone ... [IG_41, practitioner]

Addressing the challenges posed by e-cigarettes

Interviewees provided several recommendations for efforts to address the challenges posed by e-cigarettes. The most frequently mentioned were (i) improved regulation of e-cigarette products and advertising, (ii) increased enforcement of existing e-cigarette laws, (iii) continued adoption of the precautionary approach and (iv) provision of education. Monitoring and exposing industry interference and closing the Personal Importation Scheme (which allows individuals to import unapproved products from overseas) were also presented as strategies to mitigate the challenges posed by e-cigarettes, albeit by fewer interviewees.

Improved regulation of e-cigarette products and advertising

Most interviewees ($n = 22$; 65%) called for tighter regulation of e-cigarettes and e-cigarette advertising, with Australia's current regulatory approach described as "complicated", "confusing" and "woefully inept" at addressing industry innovation. Multiple regulatory reforms were suggested. These included (i) reducing the availability of e-cigarettes by prohibiting retail and online sales; (ii) prohibiting non-nicotine e-liquids and reducing the number of available e-liquid flavours; (iii) developing and implementing product standards for the device, not just the e-liquid; and (iv) introducing controls on marketing akin to those in place for tobacco products (e.g. taking action on online advertising, the promotion of flavourings and product packaging).

I think it will be making it expensive, actually regulating the product itself, regulating advertising ... packaging – all those things. I think that we should be applying the same sort of framework to tobacco control to control of e-cigarettes. [IG_19, researcher]

I think, again, the only thing we could really do for youth is to close down the access. I can order a \$15 e-cigarette to be delivered to my address free with DHL. I could order it now and have it tomorrow for \$15. We have to close down the availability of it... We have to stop the online sales, that's where most of them are getting their product from. [IG_10, public health intervention developer]

The retail shop front menace has to be – I mean, those shops have to be put out of business, frankly. They will claim that they're not selling nicotine products but every attempt at testing whatever they sell there shows that they do. So, that's nonsense. We also want to see the non-nicotine ones prohibited anyway because they are not even part of the discussion on potential cessation benefit. [IG_15, researcher]

Improved regulation of e-cigarettes was also discussed in the context of the decision by the Therapeutic Goods Administration (TGA) to change the scheduling of nicotine from a Schedule 7 poison to a Schedule 4 medicine. There was general uncertainty regarding the impact of this decision. Some interviewees ($n = 17$; 50%) noted that the change in scheduling would (i) provide those who wish to use e-cigarettes to quit smoking with access to the devices, (ii) assist with preventing illegal products from entering Australia and (iii) provide an opportunity for smokers to connect with their GP and receive

behavioural support to quit. Others ($n = 21$; 62%) noted that liquid nicotine remained unapproved by the TGA and health practitioners are therefore prescribing a product that (i) had not been subjected to the rigorous safety and quality testing procedures associated with registering a therapeutic good in Australia and (ii) has insufficient evidence for its effectiveness as a smoking cessation aid. There were concerns that the onus was being placed on health practitioners to decide on the safety and effectiveness of these products for their patients. Some interviewees were also concerned that (i) the Personal Importation Scheme remained open thus allowing individuals to continue accessing large volumes of nicotine via overseas suppliers and (ii) the TGA's decision did not cover non-nicotine e-liquid flavourings and e-cigarette devices, both of which have the potential to cause harm.

I think the current changes in the nicotine, the TGA standard, is a huge opportunity that is going to be missed, because they don't seem to care about a lot of the things that we know are dangerous ... even if you have the least harmful, best liquid, if you're using an older device, or you're not keeping the wicks moist, or you're not doing the right thing, you're using the wrong voltage, you're going to be poisoning yourself. [IG_40, researcher]

Increased enforcement of existing laws

A substantial minority of interviewees ($n = 14$; 41%) called for increased, proactive compliance monitoring and effective enforcement of existing e-cigarette regulation by all levels of government. Specifically, interviewees noted the importance of enforcing laws pertaining to (i) the importation and sale of nicotine e-liquids and (ii) sales to minors.

It's enforcement, and it has to be much more effective enforcement than what's occurred. As I said, just looking at those seizures in New South Wales, there has to be much better control at the border, much better control of online imports, but also a much greater level of enforcement at the state and territory government level. [IG_15, researcher]

Continued adoption of the precautionary approach

A substantial minority of interviewees ($n = 13$; 38%) commented on the importance of Australia's continued adoption of a precautionary approach to regulation. Some interviewees expressed concerns about attempts to liberalise access to e-cigarettes, with the lack of conclusive evidence regarded the efficacy of e-cigarettes as smoking cessation aids and their unknown long-term health effects cited as reasons against regulating the devices as a consumer product. Interviewees also commented on the consequences of liberalising access to e-cigarettes seen in other countries.

But I think it has worked well not to allow these products to be a consumer good, like tobacco products are. I think it's really important to maintain that line that regulating tobacco products as a consumer good is terrible; that was a historical mistake to do that, and to repeat that with e-cigarettes would be reprehensible. [IG_18, researcher]

I am seeing a very disturbing trend in many countries around the world where the industry has had success in ensuring open community access to e-cigarettes and vaping ... we certainly shouldn't follow suit with those countries that have liberalised access to vaping ... I think a lot of the health policy entities in those countries have folded to the pressure from the industry to do so. I suspect in years to come that will be seen as a policy error and even

go so far as to say policy failure. [IG_12, public health intervention developer]

Provision of education

A substantial minority of interviewees ($n = 11$; 32%) called for enhanced efforts to inform health professionals, consumers, parents and youth about the harms associated with e-cigarette use. Specific efforts cited by interviewees included (i) updating drug education in school curriculums to include e-cigarette use, (ii) ensuring evidence-based information is disseminated to the public and can easily be accessed by priority populations, (iii) communicating the risks and benefits of e-cigarette use in a way that is understandable and allows for informed decision making, (iv) debunking the myth that e-cigarette use is harmless and (v) providing guidance to health practitioners about e-cigarettes and the cessation education they should provide their patients.

Opportunities presented by e-cigarettes

Most interviewees ($n = 27$; 79%) reported that e-cigarettes may assist with smoking cessation, although many of these interviewees ($n = 24$; 89%) qualified their response. For example, almost half ($n = 13$; 48%) noted that use may only be beneficial for some people in certain circumstances (e.g. those experiencing mental health difficulties), and a substantial minority noted that use was not a 'silver bullet' for smoking cessation ($n = 12$; 44%). Ensuring e-cigarettes were only available in a highly controlled environment and that good regulation was in place to minimise risk to public health were deemed important, with interviewees noting that these devices could be provided to those seeking to quit without needing to be made available as a consumer product to the broader community. Being aware of the population-level risks associated with e-cigarettes rather than focusing solely on potential individual-level benefits, and ensuring health practitioners are aware that e-cigarettes are a second-line treatment for tobacco dependence, were also mentioned by some.

... for some people they work an absolute treat. In our clinic, seeing people with serious mental illness like schizophrenia, these are people who can find it hard to ever quit nicotine, who might need nicotine replacement for the rest of their lives ... for them vaping has been the thing that works ... [IG_21, practitioner]

... it's about how do you make them available to people who smoke, that struggle to quit, in the most responsible way, by not just having them available left, right and centre with no controls over sales. [IG_24, researcher]

... a decision to kind of increase access to smoking cessation products, and other therapeutic goods in Australia for that matter, really needs to take into account the balance of the risks versus the benefits. So it's not simply about the benefits of a product to an individual. It's also about the risk to that individual and, of course, what's happening at a population level. [IG_29, public servant]

Among those who believed e-cigarettes did not provide any opportunities ($n = 6$; 18%), most reported that there is no conclusive evidence that use aids smoking cessation. In addition, concerns were raised about dual use of e-cigarettes and tobacco cigarettes, and use being used to maintain nicotine addiction.

But it seems that e-cigarettes seem to hold people in nicotine addiction more than they tip them out ... People might have a sense that they're cutting down their smoking, but they're also

vaping at the same time, not understanding that that's not really going to confer the health benefit they might think it does. [IG_2, public health intervention developer]

Discussion

As Australia and other countries around the world report substantial increases in the use of novel nicotine delivery products such as e-cigarettes, the present study sought to explore the challenges and opportunities associated with these products and means by which any identified challenges could be addressed. Several challenges and recommended means of addressing these were identified by the interviewed experts. The most frequently mentioned challenge was youth uptake of e-cigarettes. Various characteristics of the devices were considered to be increasing their appeal among youth, such as brightly coloured product packaging and the multitude of available flavours, many of which are youth-oriented.²¹ The advertising of e-cigarettes via social media platforms and the use of social influencers to promote vaping were also perceived to be driving the significant increase in youth uptake observed in recent years.¹⁷

Given the substantial body of evidence documenting the association between e-cigarette use and subsequent initiation of tobacco cigarette smoking among youth,^{6,22-24} many interviewees considered increasing e-cigarette prevalence rates a threat to existing tobacco control efforts and called for tighter regulation of e-cigarettes and e-cigarette advertising to curb youth uptake. Key policy recommendations included (i) prohibiting retail and online sales to address the ease with which e-cigarette products can be purchased, (ii) prohibiting or reducing the number of e-liquid flavours, (iii) introducing controls on online advertising and product packaging and (iv) increasing enforcement of laws pertaining to the sale and importation of nicotine e-liquids. Amending Australia's *Customs (Prohibited Imports) Regulations 1956* and prohibiting the importation of all e-cigarettes, e-cigarette components and e-liquids except where a clear exemption has been obtained constitutes a means by which the accessibility and availability of these products can be reduced. Prohibiting the sale of flavoured e-liquids is particularly important given that, in addition to their appeal to youth, these e-liquids potentiate the reinforcing effects of nicotine, increase abuse liability, offer no benefit for smoking cessation when they do not contain nicotine and may be associated with significant health risks.²⁵⁻²⁸

The disingenuous activities of the e-cigarette industry and other vested interests was the second most commonly mentioned challenge, with most interviewees raising concerns about the extent to which industry is (i) interfering in both public health discussions related to e-cigarettes and the scientific process and (ii) aggressively and relentlessly lobbying the government for e-cigarette access to be liberalised. Interviewees noted that while vested interests are presenting themselves as a critical part of the solution to reduce smoking rates, they continue to undermine tobacco control policy to ensure their commercial interests are supported over public health. Concerns were also raised that novel nicotine delivery devices were being used by industry to circumvent Article 5.3 of the World Health Organization's FCTC, with many interviewees believing that a recent Australian inquiry into tobacco harm reduction was the result of industry lobbying. An investigative piece published since the inquiry confirmed the legitimacy of these concerns, exposing industry interference and continued donations from the tobacco industry to a political party involved in the inquiry.²⁹

In light of these activities, a substantial minority of interviewees called for ongoing monitoring and exposure of industry interference to ensure public health policy is not unduly influenced by those with vested interests. This recommendation is consistent with that of a recent report by the World Health Organization, which deemed the protection of tobacco control efforts from commercial and other vested interests involved in novel nicotine and non-nicotine delivery devices to be a crucial regulatory objective.³⁰ Several articles in the FCTC aim to protect tobacco control efforts from industry interference. Although signatories, which include Australia, are legally bound to adopt the measures outlined in the Convention, the findings of the present study and those of others^{31–33} suggest measures protecting public health policy from industry interference are not being implemented in a manner consistent with best practice, thus facilitating opportunities for industry influence. The significant gap in implementation of these FCTC Articles in Australia and globally warrants immediate attention.

Many interviewees expressed concerns about the difficulties associated with monitoring and controlling below-the-line advertising of e-cigarettes, with some noting that the TAP Act was no longer fit-for-purpose as it failed to account for novel products and means of advertising. Action on e-cigarette marketing was considered to be an important means by which this challenge could be addressed. Ensuring any action taken accounts for the various strategies used by industry to promote their products (e.g. youth-oriented advertising, sponsorship, product design, pricing, market segmentation³⁴) is critical. For example, e-cigarette advertising often features very young, attractive protagonists and ‘cute’, ‘cool’ and ‘edgy’ imagery.³⁵ Promotional material also focuses on the physical and/or emotional benefits of e-cigarette use.^{35,36} In terms of sponsorship, McLaren Racing is sponsored by Vuse, an e-cigarette product manufactured by British American Tobacco’s Nicoventures. In terms of price, e-cigarettes are frequently advertised with offers such as coupons, discounts and giveaways.¹¹ Expanding the TAP Act to prohibit these egregious forms of marketing is urgently needed.

Finally, interviewees raised concerns about the lack of quality and safety controls over e-cigarette products and the inaccuracy of e-liquid labels, particularly in terms of nicotine content. Implementing product safety standards for e-cigarette devices was considered important, with some interviewees commenting that such standards should have been included in the TGA’s standard for unapproved vaporiser nicotine products (TGO 110). Given e-cigarettes comprise a variety of interchangeable parts, and e-liquids that meet certain standards can still lead to poisoning if the device used to inhale the liquid is poorly manufactured, the development and implementation of quality control standards for e-liquid delivery systems is critical to minimising risk to health.

Opportunities provided by e-cigarettes

Although a majority of interviewees reported that e-cigarettes may assist with smoking cessation, most qualified their response. For example, interviewees noted that evidence relating to the effectiveness of e-cigarettes as a cessation aid was mixed and the devices were by no means a ‘silver bullet’. These perceptions are supported by evidence indicating that the few clinical trials demonstrating any effectiveness of e-cigarettes have included behavioural support,³⁷ suggesting e-cigarette use on its own may be insufficient for successful cessation. Liberalising access to e-cigarettes

and regulating them as consumer products that are widely available was deemed unnecessary, especially given the TGA’s decision to implement a pharmaceutical model for liquid nicotine. While acknowledging the pharmaceutical model has several disadvantages, interviewees noted that this approach provides smokers wishing to quit with access to e-cigarettes and an opportunity to receive behavioural support from their GP while controlling the availability of these products. Access to behavioural support is particularly important given behavioural intervention increases the chance of quitting success by 10-20%.³⁸

Limitations

This study had several limitations that should be considered when interpreting the findings. First, due to the inductive nature of the coding process, only one researcher coded the data. While this is customary in reflexive thematic analysis,²⁰ it is acknowledged that the analysis reflected the researcher’s active engagement with the data. Second, the sample cannot be considered representative of all tobacco or nicotine experts in Australia, although individuals from a variety of non-government and government organisations were recruited to ensure both sectors were represented. Third, only one Aboriginal and Torres Strait Islander person was able to be recruited for this study. Future research should seek to explore the challenges and opportunities associated with e-cigarettes as they relate to Aboriginal and Torres Strait Islander peoples. Finally, practitioners and public servants were under-represented in the sample and, as such, data could not be examined by occupation.

Conclusion

Despite strong restrictions on the sale and use of e-cigarettes in Australia, public health experts working in tobacco- and/or nicotine-related policy, practice and research reported that these products and the companies behind them present several challenges to public health. Improved regulation, increased enforcement of existing laws and continued adoption of the precautionary approach were recommended means by which these challenges could be addressed. The current approach of providing controlled access to liquid nicotine under a pharmaceutical model, while not without its limitations, offers an opportunity for smokers to access the behavioural support needed for them to increase their chances of successfully quitting smoking.

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Ethics

The study protocol was deemed low and negligible risk and approved by The University of Melbourne’s Human Research Ethics Committee (approval reference: 2021-20891-14521-3). All participants provided informed consent.

Conflicts of interest

None.

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Appendix A Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.anzjph.2022.100006>.