

“They’re sleek, stylish and sexy:” selling e-cigarettes online

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Abstract

Objective: We examined the product range, marketing strategies, access and marketing claims made by Australian and New Zealand (NZ) online e-cigarette retailers.

Methods: Twenty Australian ($n=10$) and NZ ($n=10$) e-cigarette retail websites were identified via Google using a combination of keywords nominated by an expert panel and identified via a literature review: ‘e-cigarette’, ‘e-cigs’, ‘vape’, and ‘vaping’, combined with ‘Australia’, ‘AU’, ‘New Zealand’ and ‘NZ’ and then examined.

Results: Products were extensive (disposable, pod-based, reusable, replacement parts), 95% ($n=19$) offered ‘Starter Kits,’ flavoured e-liquid ($n=1,032$), most containing nicotine (70%, $n=14$). Most retailers (85%, $n=17$) offered price discounts and free delivery. There were unsubstantiated health claims (80%, $n=16$), cessation claims (65%, $n=13$) and cost-benefit claims (50%, $n=10$) promoting e-cigarette use. Most ($n=14$) website age verification features simply required the purchaser to indicate they were aged 18 years.

Conclusions: Although e-cigarette regulations are different in Australia and NZ, the online product range, marketing strategies, access and marketing claims were similar and sold e-liquid containing nicotine. The health and cessation e-cigarette marketing claims were outlandish and unsubstantiated.

Implications for public health: Most purchasing of e-cigarettes occurs online. Regulations and enforcement to limit access and stop unsubstantiated marketing claims must be a public health priority.

Key words: e-cigarette, e-liquid, marketing, retailer, youth

Introduction

Introduced to the US market in 2007, e-cigarettes have rapidly evolved.^{1,2} First-generation e-cigarettes were designed to imitate conventional cigarettes.³ Second-generation devices,⁴ referred to as ‘vape pens’ feature prefilled or refillable cartridges, rechargeable and designed for multiple use.³ The third-generation products, introduced in 2011, were modifiable (‘mod’), enabling users to customise the flavour and level of nicotine used.^{3,4} Fourth generation products are increasingly attractive, available in multiple shapes, sizes, and colours.⁴ These devices are a prefilled or refillable ‘pod’ with a modifiable (mod) system (‘Pod-Mods’).⁵ Expansion of e-cigarette devices has been accompanied by an explosive growth in enticing e-liquid flavours (> 20,000 flavours),⁶ liquids that are heated by the e-cigarette device to create an aerosol to be inhaled by the user, which may or may not contain nicotine.

Promotion and sale of e-cigarette products occurs largely via online retail websites,^{1,7} which employ marketing techniques such as linking their websites to social media platforms⁸ and offering discounts, warranties and loyalty programs.⁹ Consumers commonly join loyalty programs to earn points or discounts, which can be redeemed for rewards, including e-cigarette products or services, leading to an improved business reputation and new customers.¹⁰ Online retailers also use celebrity endorsement, and often emphasise the modernity and the social favourability of these products to capture the younger market.¹¹ In addition, studies have reported the use of unproven and inappropriate marketing claims that can mislead consumers, particularly adolescents,^{1,7,12,13} such as stating that e-cigarettes are healthier, cleaner and cheaper than tobacco products, and an effective smoking cessation tool.^{1,8}

In Australia, consumers can purchase e-cigarettes that do not contain nicotine in several jurisdictions, however, it is illegal to sell or possess

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e-cigarettes or e-liquids containing nicotine, as nicotine is classified as a dangerous poison.¹⁴ Users can legally import nicotine containing e-cigarettes through a Personal Importation Scheme if they have a prescription from a physician.¹⁴ Conversely, in New Zealand, nicotine-containing e-cigarettes can be legally purchased as a consumer product.¹⁵ However, in both countries, it is illegal for manufacturers/retailers to sell e-cigarettes to those aged less than 18 years and to make therapeutic claims.¹⁵

Although, Australia and New Zealand have different legislation for e-cigarettes, their use has increased in both countries. According to the 2019 National Drug Strategy Household Survey (2020),¹⁶ 11% of Australians aged 14 years and over 'have ever used' e-cigarettes, increasing from 8.8% in 2016. New Zealand has reported a similar trend, with data from the annual New Zealand Health Survey (2019) reporting that 22.2% of New Zealander's over 15 years of age 'have ever used' e-cigarettes, increasing from 16.2% since 2015.¹⁷ These increasing vaping rates in both Australia and New Zealand are of significant public health concern.^{18,19}

The internet increasingly plays a key role in supporting access to e-cigarette products, recognised as the leading distribution avenue for e-cigarette products, comprising 70% of overall value sales.¹⁴ Building on previous research,²⁰ this study aimed to examine the e-cigarette product range, marketing strategies, access, and marketing claims made by e-cigarette online retailers in Australia and New Zealand.

Material and Methods

A list of popular e-cigarette terms was identified by examining the peer-reviewed literature²¹ and through consultation with an expert panel comprising tobacco control researchers, expert practitioners and the University Faculty Health Sciences Librarian. This process identified the following search terms: 'e-cigarette', 'e-cigs', 'vape' and 'vaping', combined with 'Australia', 'AU', 'New Zealand' and 'NZ'. Eight combinations of search terms were examined per country (e.g. 'e-cigs AU' and 'vape New Zealand'), to identify Australian and New Zealand based online e-cigarette retailers. This search was conducted in September 2021.

The eight combined search terms (per country) were entered separately into the Google search engine, and the first twenty websites for each search combination were collected and stored in an excel spreadsheet. The links that appeared first on Google's search engine results page are higher ranked pages, therefore, theoretically, the best links relating to the search terms.^{22,23} The search strategy generated 160 links for each country. The links were screened and 34 unique retailers (New Zealand=18, Australia=16) were identified. The top 20 (New Zealand $n=10$; Australia $n=10$) most frequently identified retail websites from each country were then included in the study (RB).

Identification and coding of website content

E-cigarette products; starter kits – a pack of products including e-cigarettes, charger, battery and cartridge;¹ disposable e-cigarette – designed to be used one time and not rechargeable or refilled³; pod-based e-cigarettes – replaceable pre-filled cartridges and designed to look like a cigarette or USB stick; reusable e-cigarettes – comprising a refillable liquid reservoir²¹ cartridges and replacement parts (e.g. coils, wick, batteries); and product prices.

E-liquid products – nicotine free; or containing nicotine; and primary flavours – tobacco, menthol/mint, beverage, fruit, candy, dessert/bakery and others.

Marketing strategies – price discounts; free delivery; loyalty programs; warranties; and links to social media platforms.

Age verification and purchase method – age verification processes; payment and delivery options.

Marketing claims – health-related, cessation-related, ability to vape anywhere, health warning, not exposed to second-hand smoke, cleaner than tobacco smoking, cost-benefit, environmentally friendly, increasing social status, and modern/advanced technology.²⁵ Definitions for each category are provided in [Supplementary Appendix 1](#).

Analysis

Content analysis guided the data analysis by quantifying the occurrence of products and other textual data.²⁴ Using this method, codes (i.e. e-cigarettes products, e-liquid products, marketing strategies, age verification and marketing claims) and aligned sub-codes were identified prior to searching for them in the data. The final coding framework was applied by RB and checked by CW. Each code was a variable, recorded and aggregated using descriptive statistics in Microsoft Excel 2019. A qualitative approach was taken to interrogate the 'marketing claims' using coding by Grana and colleagues.²⁵ Marketing claims from the website were used to illuminate the coded claims.

Results

The search strategy yielded a total of 320 website links (160 Australian; 160 New Zealand). Then 286 non-retail website links were excluded, leaving 16 unique Australian and 18 unique New Zealand online retailers. The 20 (Australia=10; New Zealand= 10) most frequently occurring retailers, identified by the search terms, were included in the study (see [Figure 1](#)).

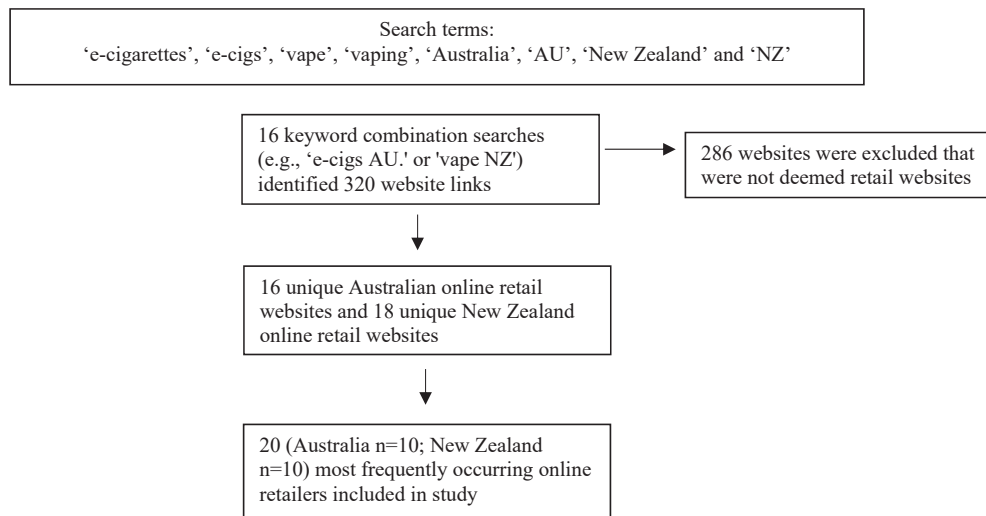
E-cigarette products

Of the retailer websites analysed, most sold starter kits, pod-based products, reusable products, cartridges and replacement parts. In Australia, one website sold disposable e-cigarettes, compared to 60% ($n=6$) of New Zealand retail websites. E-liquid was available to purchase from all reviewed websites, however, four (40%) Australian and all New Zealand websites (100%, $n=10$) offered e-liquid that contained nicotine. The concentration of nicotine containing e-liquid ranged from 3 mg to 100 mg. There were 1,032 e-liquid and pod refill flavours ($n=1,032$) identified (see [Table 1](#)).

Marketing strategies

Most online retailers (85%, $n=17$) offered price discounts (15%, $n=3$) and/or free delivery (70%, $n=14$) and eight (40%) employed loyalty programs for customers to earn points, which could be redeemed for discounts and other rewards. Additionally, eight (40%) retailers provided warranties for their products, ranging from seven days to three months. Retailers in both countries were linked to social media platforms: Facebook (85%, $n=17$), Instagram (60%, $n=12$), Twitter (45%, $n=9$), YouTube (30%, $n=6$) and others (e.g. Pinterest, LinkedIn and Snapchat) (30%, $n=6$).

Figure 1: Website identification protocol.



Age verification, payment, and delivery

Fifty per cent ($n=5$) of the Australian retailers and 90% ($n=9$) of New Zealand retailers had some form of age verification method before entry to the retailers' site could occur. The age verification methods were a pop-up or dialogue box that required the user to verify they were aged at least 18-years (by clicking on 'yes'). Four New Zealand sites required further verification of age when attempting to purchase a product using a check box option, while one site required verification via a formalised ID process (e.g. driver's license, passport) to complete the purchase.

Payment methods included the use of a credit card (90%, $n=18$), poli (40% $n=8$), ZIP (35%, $n=7$), LayBuy (30%, $n=6$), bank transfer (30%, $n=6$), PayPal (25%, $n=5$), bitcoin/cryptocurrency (20%, $n=4$), and

Klarna (15%, $n=3$). The main delivery methods were DHL Express ($n=7$), Australia Post ($n=7$), and New Zealand Post/Couriers ($n=5$).

Marketing claims

Marketing claims are aggregated in Table 2 and quotes to illuminate these claims are contained in the text below.

Health related

Health claims (80%, $n=16$) were the most frequent occurring claim. Health claims included the e-cigarettes being less harmful than tobacco cigarettes, e-cigarettes being free of toxic chemicals, and e-cigarettes not causing disease. Of the 16 retail websites, eleven (55%)

Table 1: E-cigarette products and prices.

Product type	Australian online retailers (n=10)		New Zealand online retailers (n=10)		Total			
	Available	Price (AU\$)	Available	Price (NZ\$)	Available			
	n	%	n	%	n	%		
<i>E-cigarette devices and parts</i>								
Starter kits	9	90	26-288	10	100	25-190	19	95
Disposable e-cigarette	1	10	15-150	6	60	8-25	7	35
Pod-based products	8	80	8-175	8	80	15-90	16	80
Reusable products	7	70	22-200	7	70	47-170	14	70
Cartridges	9	90	4-88	7	70	5-69	16	80
Replacement parts (battery, coils)	9	90	2-125	8	80	1-80	17	85
<i>E-liquid</i>								
Nicotine-free e-liquid	10	100	3-130	10	100	10-145	20	100
Nicotine-containing e-liquid	4	40		10	100		14	70
<i>E-liquid flavours (n=1032)</i>								
Fruit	404	39						
Dessert/bakery	181	17.5						
Beverage	141	14						
Tobacco	110	11						
Candy	88	8.5						
Mint/menthol	72	7						
Other	36	3						

Table 2: Online retailers making marketing claims.

Claims	Australian online retailers (n=10)		New Zealand online retailers (n=10)		Total	
	n	%	n	%	n	%
Health-related	10	100	6	60	16	80
Cessation related	7	70	5	50	13	65
Cleaner than smoking	6	60	4	40	10	50
Cost-benefit	6	60	4	40	10	50
Ability to vape anywhere	5	50	2	20	7	35
Health warning	3	30	3	30	6	30
Environmentally friendly	3	30	3	30	6	30
Increasing social status	4	40	1	10	5	25
Modern technology	4	40	0	0	4	20
Second-hand smoke	4	40	0	0	4	20

claimed e-cigarettes were less harmful than tobacco products, for example,

'Using vaping to switch from smoking provides the user nicotine by heating e-liquid in a much less harmful way - vaping has been proven to be up to 95% less harmful than smoking cigarettes' (New Zealand (NZ) 1 retailer).

Six (30%) retailers provided statements that e-cigarettes were free from toxins, such as carcinogens or tar.

'There is no tar or carbon monoxide in vapour, and if you are vaping high quality tested liquids, then you can be puffing on ZERO carcinogens' (Australia (AU) 9 retailer).

Another retailer claimed that switching from smoking to vaping would help improve breathing.

'By switching to the use of a vaporiser, you will feel your breathing improve in a matter of days' (NZ 8 retailer).

In addition, two retailers claimed that e-cigarettes do not cause 'popcorn lung' (scarring of the lung's air sacs) (NZ 3 retailer), and another referred to a journal article that identified e-cigarettes could improve health and the ability of smokers to exercise (AU 2 retailer).

Cessation related

Claims about smoking cessation were frequent (65%; n=13). Several online retailers presented claims regarding the success rate for quitting smoking. For instance,

'Results published in *The American Journal of Preventative Medicine* showed that after 6 months, 31 per cent of e-cig users did not go back to smoking traditional cigarettes' (AU 8 retailer).

Conversely, some online retailers made cessation claims through customer testimonials. For example,

'before quitting, I was smoking 2 x 50 grams of tobacco a week. I quit in an extremely stressful time in my life. I have now been smoke free for four years through vaping' (customer)' (NZ 3 retailer).

Moreover, other online retailers made comparisons to other nicotine replacement therapies, such as

'E-cigarettes are a more effective tool for helping smokers quit than nicotine replacement therapies, including patches and gum' (AU 2 retailer).

Another retail site claimed e-cigarettes as the most effective smoking cessation aid.

'Vaping is the most popular and most effective aid for quitting smoking in Australia and other western countries' (NZ 5 retailer).

Cleaner than smoking

Retailers claimed e-cigarettes were cleaner than cigarettes (50% n=10). Statements included no smoke, no ash, no smell, no stained teeth, fingernails, fingers and only vapour. For example,

'Just like other (less advanced) e-cigarettes, they contain no tar, ash, tobacco, flame, carbon monoxide, smoke, or the offensively foul odours they produce' (AU 8 retailer).

'Vapour from vape liquids on the other hand is closer to that of steam than smoke. There is no tar or carbon monoxide in vapour' (AU 9 retailer).

Cost benefit

Ten (50%) online retailers stated that e-cigarettes were cheaper than tobacco products. For example,

'On average, vaping is way less expensive than maintaining a daily cigarette habit' (AU 10 retailer).

'A 20-a-day habit can cost the average smoker nearly \$10,000 a year. In contrast, vaping can cost under \$800 per year' (NZ 3 retailer).

Ability to vape anywhere

Seven (35%) retailers made statements relating to the ability to vape anywhere, including smoke-free environments (e.g. bars, offices and restaurants) and in response to smoke-free policies:

'They [e-cigarettes] are not at all traditional cigarettes, you'll be able to vape in most places prohibited to smokers' (AU 8 retailer).

Health warning

Six (30%) online retailers included messages or health warnings that e-cigarette/vaping products can be a risk to, or harm health. Four (20%) websites presented warnings that nicotine is addictive and/or poisonous, and three (15%) retailers stated that the products were not suitable for pregnant or breastfeeding women and can cause severe illness. For example,

'Nicotine is a poison. You must remain very vigilant in keeping your vaping device and e-liquid or cartridges/pods out of the reach of children and pets' (NZ 8 retailer).

They also warned about the need to vape responsibly stating,

'If you don't already smoke, please do not vape' (NZ 8 retailer).

Health warnings were located on the products, in the 'terms and conditions' section, and the website's footer and at times written in smaller font.

Environmentally friendly

Six (30%) online retailers claimed that their products were environmentally friendly, produced less waste or had natural (organic) ingredients. The retailers employed pictorial representations, including green leaves, trees, and recycling logos. For example,

'don't buy a disposable [e-cigarette] that isn't fully recyclable - our device is friendly to the planet' (NZ 1 retailer).

Social status/modern technology

Five (25%) retailers made statements that e-cigarettes are stylish, cool and can increase social acceptability.

'Not only do they [e-cigarettes] look sleek, but they are also stylish. As vaping is more socially acceptable than smoking' (AU 1 retailer), with another stating *'Some people vape because it's sexy'* (AU 5 retailer).

Four (20%) retailers described their products as advanced, futuristic, and revolutionary.

'Creative design, advanced technology, Infinix will bring you infinite pleasure. Innovation keeps changing the vaping experience!' (AU 9 retailer).

Second-hand smoke

In addition, claims that e-cigarettes do not expose people to second-hand smoke were presented on four (20%) Australian retailer websites:

'Using e-cigarette, you can smoke without offending others with second-hand smoke' (AU 9 retailer).

Discussion

From the 34 Australian and New Zealand online retail websites identified during our Google search, the 20 most frequently occurring websites were reviewed. We found these retailers offered a diverse range of e-cigarette devices and e-liquids, ranging in price. The retailers used traditional marketing and more innovative approaches and made a range of unsubstantiated claims. Despite the different regulations in Australia and New Zealand, the range of products and the use of marketing strategies were similar, however, more Australian websites made unsubstantiated claims and more New Zealand websites offered e-liquid containing nicotine.

Almost all retailers (95%) offered 'Starter Kits' for e-cigarette novices, which contained an e-cigarette device, charger, battery and cartridge. The available e-cigarettes products included all generations (e.g. pods, disposables, mods) in a variety of attractive shapes, sizes and colours. Many of the products (e.g. pod based and disposable) were small making them portable and discreet, and convenient to use anywhere at any time, making them potentially popular among adolescents.²⁶ 'Stealth vaping' is the practice of vaping in prohibited places, such as schools, enabling e-cigarette use, and potentially normalisation of e-cigarettes and enabling nicotine addiction.²⁷

The amount of nicotine in the youth orientated disposable/pod-based products is often high,²⁶ with a typical disposal vape containing the level of nicotine equivalent to a 20 pack of cigarettes.²⁸ This is

concerning as nicotine can pose a particular threat to adolescents' brain development, affecting learning, attention and memory, and leading to addiction.^{12,29} It is estimated that adolescents who vape are up to four times more likely to become a regular smoker.³⁰⁻³² In addition, 'nicotine-free' e-liquid is not without its dangers, as the aerosol still contains cancer causing chemicals, and chemicals linked to serious lung disease.^{33,34} A recent study³³ found that e-liquid sold in Australia, labelled as being 'nicotine-free' actually contained nicotine and other harmful chemicals.

Online retailers in both New Zealand and Australia made outlandish claims to promote and sell e-cigarette products, which included e-cigarettes being 95% less harmful than tobacco products, containing few toxic chemicals and not causing disease. A large proportion of online retailers claimed e-cigarettes to be an effective approach to stopping smoking, compared to other nicotine replacement therapies. Yet, these claims cannot be justified at a population level based on available evidence,³⁵⁻³⁷ and the health implications related to e-cigarettes' acute and long-term harm remain unclear and uncertain.^{12,13,38,39} These types of marketing claims influence perception about the potential harms and benefits of e-cigarettes,^{40,41} encouraging experimentation and purchases.^{42,43}

Retailers also used the environment to sell e-cigarettes, promoting them as environmentally friendly and as a way to reduce pollution, as they used natural (organic) ingredients. There were also claims e-cigarettes do not produce second-hand smoke as the side-stream is only a water vapour, even though research shows that this aerosol increases airborne concentrations of particulate matter, heavy metals, nicotine and other carcinogens.^{12,44} These findings are similar to a previous study that found almost 30% of reviewed retail websites made 'environmentally friendly' claims.⁷ These types of claims can influence peoples' choices, particularly adolescents, who are led to believe that these products are safe,⁷ increasing their acceptability and uptake.

Conversely, only six (30%) retailer websites presented health warnings about nicotine addiction, which was similar to the findings of a New Zealand study.⁴⁵ Furthermore, online retailers diminished the visibility of e-cigarette warnings by using small fonts and positioning them in the website footer or within the websites 'terms and conditions'.⁴⁶ Given the demonstrated risks, these warnings need to be more visible, so that consumers are fully informed.

Beyond this, other marketing strategies included price discounts, free delivery and provision of product warranties, along with the cost-benefit of e-cigarettes compared to smoking. It is recognised that companies use price discounts to target adolescents and people on low incomes because this method can increase experimentation, and lead to an established habit.⁴⁷ The tobacco industry has long used loyalty programs,⁴⁸ a strategy designed to maintain customers and profitability by deflecting attention from price to value-added product benefits. Loyalty programs also appeal to people on low incomes, such as adolescents.⁴⁸ Retailers were also linked to social media platforms, increasing their reach and access to young customers. Young people spend a significant amount of time interacting with social media, providing an avenue to learn about e-cigarettes, experiment and start vaping.¹¹

Alarmingly, only 70% of the online retailers featured age verification checks to enter their websites. These age checks were usually a simple check-box exercise. Methods such as a pop-up or dialogue box are

easily circumvented by minors.⁴⁹ Furthermore, once a visitor entered the retail site there was predominantly no age verification required for the purchasing. It is known that more than 70% of e-cigarette purchases are made online,¹⁴ therefore more stringent methods need to be introduced to stop easy access by minors to these products.

Limitations

Firstly, not all Australian and New Zealand e-cigarette retail websites were reviewed, however, we believe the study provides up-to-date insights into the online e-cigarette retail environment. It is also important to note that this research was conducted in September 2021 prior to the implementation of Australian legislation on the 1 October 2021, which requires Australians to have a prescription to import nicotine e-liquid.

Conclusion

Although e-cigarette regulations differ in Australia and New Zealand, the marketing and access approaches did not. Marketing strategies used by the online retailers were usual tobacco industry techniques and newer techniques, such as extending their market reach through popular social media platforms and promoting the cost-benefit of e-cigarettes. Online retailers in both countries offered similar products, however, Australian websites provided less nicotine e-liquid and made more extreme marketing claims.

This study highlights the need to introduce policies to curb these identified marketing strategies and claims, as most e-cigarette purchases occur online. These strategies could include the: prohibiting of marketing strategies such as price discounts, free shipping, and loyalty programs; prohibiting marketing via social media, requiring social media platforms to adhere to their content policies; more rigorous standardised online age verification processes; and regular auditing of online retailer claims, accompanied by fines for making unsubstantiated marketing claims.

Ethics

This study used publicly available data therefore no ethics approval was required.

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Conflict of interest

The authors have no conflict of interest.

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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.2022.100013>.