



Public Health
England

E-cigarette uptake and marketing

A report commissioned by Public Health
England

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About Public Health England

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1. Introduction

E-cigarettes are battery operated devices that aim to simulate combustible cigarettes. They don't contain tobacco but operate by heating nicotine and other chemicals into a vapour that is inhaled. Nicotine is the addictive substance in tobacco but it is the many other chemicals in cigarettes that are responsible for smoking-related diseases. Electronic cigarettes deliver nicotine without the vast majority of these other chemicals, and it is for this reason that organisations such as the Medicines and Healthcare Products Regulatory Agency (MHRA)¹ and the National Institute for Health and Care Excellence (NICE)² have indicated that electronic cigarettes are less harmful than tobacco.

E-cigarettes are increasingly popular in a number of countries including the UK. However, they currently pose a number of challenges for public health. First, there are concerns about the extent and nature of the e-cigarette market. In particular, the role of the tobacco industry in manufacturing and promoting e-cigarettes, while continuing to sell conventional cigarettes, has been questioned. Secondly, there is a need to understand the extent to which children and young people may use e-cigarettes, particularly those who are current non smokers. Linked to this is a concern about the current marketing of these products and whether that marketing may appeal to children. Each of these issues is explored here, drawing on available published articles and reports.

2. The e-cigarette market

The e-cigarette market is estimated to be worth £91.3 million a year.³ It increased by 340% in 2013 to reach £193 million, and is expected to be worth £340 million by 2015.⁴ In the UK, there are an estimated 1.3 million e-cigarette users.⁵

Several e-cigarette start-ups and about 250 independent suppliers have emerged since the product first launched in the UK seven years ago⁶. Some independents have since been acquired by the tobacco industry, which is increasingly taking ownership of the market – all the large tobacco multinationals are now active in this sector.⁷ British American Tobacco (BAT), which owns a 42% stake in RJ Reynolds (the makers of Camel and other brands), was the first major tobacco group to buy a British e-cigarette company when it acquired CN Creative (the maker of Intellicig) in December 2012.⁸ BAT had previously set up the wholly-owned subsidiary Nicoventures, which ‘operates as a stand-alone business within the British American Tobacco Group’, to develop and commercialise regulated nicotine products⁹. CN Creative merged with BAT Research and Development and Nicoventures in August 2013 when it launched the e-cigarette, Vype.¹⁰ In addition, Imperial Tobacco has formed the wholly-owned subsidiary Fontem Ventures to develop ‘e-vapour cigarettes’.¹¹

In 2012, the third largest US tobacco firm Lorillard (makers of Newport and other brands) paid £90 million for the e-cigarette company Blu Ecigs¹² and in October 2013, the company entered the UK market when it acquired the independent Edinburgh based e-cigarette brand, Skycig, for £30 million. The product generated £2.4 million in net sales in the quarter following the acquisition.¹³

Altria, the owner of Philip Morris (PMI) (makers of Marlboro and other brands), launched its e-cigarette brand, MarkTen, in June 2013 and bought Green Smoke Inc. for an estimated £66 million in February 2014.^{14,15} PMI has also announced plans to market ‘a new type of cigarette that poses lower health risks by 2017’.¹⁶

Smaller independent e-cigarette companies are also expanding. Ten Motives, for example, filed a new trademark ‘cirro’ in January 2013 for 31 goods,¹⁷ while other independents have merged. Victory Electronic Cigarettes teamed with FIN Branding Group in February 2014 in a bid to build the largest independent e-cigarette company and acquired Vapestick for £42 million.^{18,19}

The following month, the national e-cigarette firm multiCIG paired with Nottinghamshire company multiVAPE to manufacture e-liquids.²⁰ In addition, the cigarette filter company Essentra is set to enter the e-cigarette market²¹, while leading independent e-cigarette brand E-Lites has revealed its intentions to move into the US, Europe, South Africa and India to treble its overall sales.²²

All e-cigarettes on the market in the UK are currently available as consumer products. However, the health regulator the Medicines and Healthcare Products Regulatory Agency (MHRA) has received a number of applications for e-cigarette licences. It is anticipated that BAT's subsidiary Nicoventures may be granted a medical licence for one of its products by the end of 2014, meaning that the first e-cigarette on the UK market to be available as a medicine will be manufactured by a tobacco company.³

3. E-cigarette uptake by children

The vast majority of current tobacco smokers in the UK started smoking as children. A growing number of studies are now being conducted to establish whether the uptake of e-cigarettes is also occurring among those under the age of 18. All studies to date suffer from a number of limitations, the most common being that all the data are self-reported and in some of the studies the samples are small. Despite this, some data is available from the UK, the USA, South Korea, France and Poland and some similar findings emerge across these countries.

3.1 UK

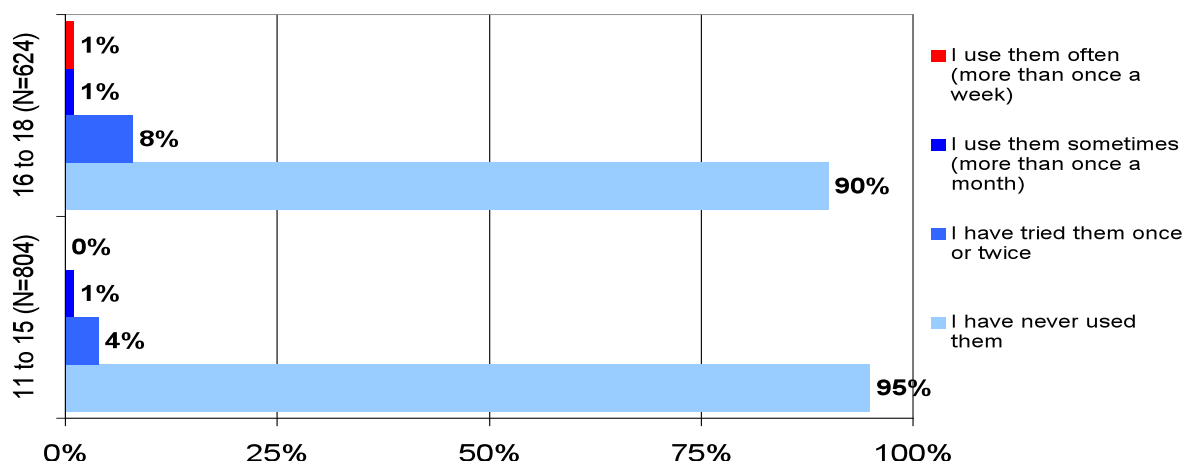
Only one published nationally representative survey of e-cigarette use in children in the UK currently exists. This was conducted in March 2013 and did not include children in Northern Ireland but involved a sample of 2,178 11 to 18-year olds from Great Britain weighted to be representative of the population. It found that two-thirds (66%) had heard of e-cigarettes.^{5,23} Taking this group of children as the base (804 11 to 15-year-olds, 624 16 to 18-year olds), ever use, current use and dual use (with conventional tobacco cigarettes) was measured.

In terms of prevalence, 7% of 11 to 18-year olds reported they had tried e-cigarettes at least once and 2% reported using them sometimes (more than once a month) or often (more than once a week). Within the sample of those who had ever used e-cigarettes, 28% had used e-cigarettes within the last month. When prevalence was examined by age, 95% of 11 to 15-year olds and 90% 16 to 18-year olds stated they had never used e-cigarettes. Use was higher among the older teenagers: 11% of 16 to 18-year olds had tried e-cigarettes at least once; 8% reported using them sometimes (more than once a month); and 1% using them often (more than once a week). Among the younger age group, just 4% 11 to 15-year olds had tried them at least once and 1% reported using them sometimes; none reported more frequent use. Figure 1 illustrates these results.

The survey also examined differences between smoking and non-smoking young people, as shown in figure 2. Among those 11 to 18-year olds reporting they had never smoked, 99% reported never using e-cigarettes and 1% reported they had tried them once or twice. There were no 'sometimes' or 'often' e-cigarette users among never smokers. Among children who had tried smoking at least once, 8% had used an e-cigarette but none reported

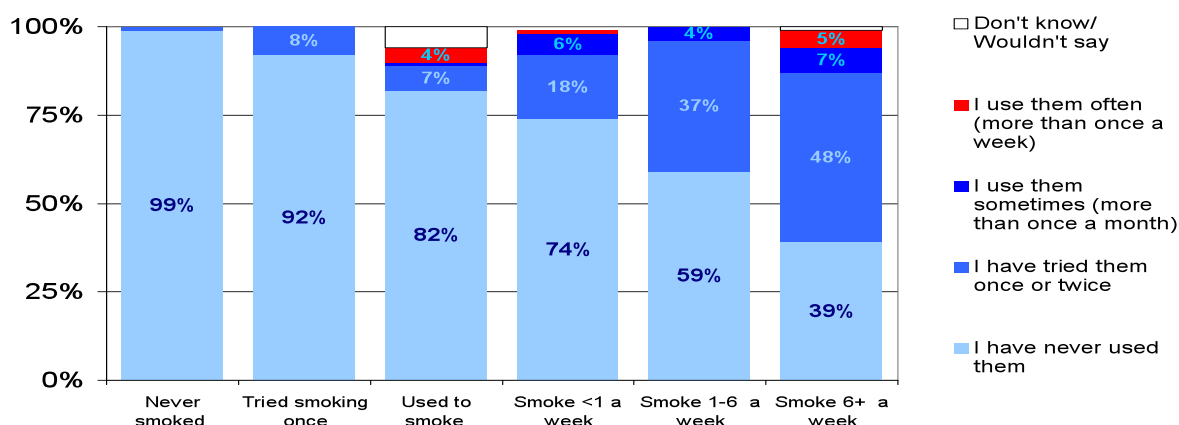
using them more often. The sample of current weekly 11 to 18-year old smokers (smoking between one and six cigarettes per week) in the survey was very small (22 weekly smokers); 59% had never used e-cigarettes, 37% reported having tried them once or twice, 7% reported use more than once a month and 5% reported use more than once a week.

Figure 1: Frequency of e-cigarette use among children in Britain, 2013⁵



Base: children who have heard of e-cigarettes, by age

Figure 2: E-cigarette use among children in Britain, 2013²³



Base: children who have heard of e-cigarettes, by smoking status

This survey is currently being repeated. Data should also be available in the future from more routine sources in the UK, as questions on e-cigarettes are now being included in national surveys of health behaviour in young people. In addition, a

regional survey of young people in the North West of England was conducted by trading standards in the spring of 2013. This included one broad question on ever use or purchase of e-cigarettes as part of the larger survey.²⁴ An article based on the findings should be available soon.

3.2 USA

The largest dataset on children's uptake of e-cigarettes identified to date is from the USA's National Youth Tobacco Survey (NYTS). It employed a representative sample of pupils in middle-school (11 to 14-year olds) and high-school (14 to 18-year olds) from all 50 States; with a sample size of 18,866 children in 2011 and 24,658 in 2012. E-cigarette prevalence among the sample was measured in the 2011 and 2012 waves of the survey and the results were compared.^{25,26}

In terms of prevalence, among all children 'ever use' of e-cigarettes was low but did increase between the two surveys. In 2011 it was 3.3%, rising to 6.8% ($p<0.05$) in 2012. Current use (≥ 1 day in the past 30 days) significantly increased from 1.1 to 2.1% ($p<0.05$), and current 'dual use' (e-cigarettes and tobacco) increased from 0.8 to 1.6% ($p<0.05$) from 2011 to 2012.

The 2012 survey also asked about concurrent use of e-cigarettes and conventional cigarettes and found that most use occurred among current cigarette smokers. In the sample overall, 76.3% of ever e-cigarette users were current smokers while 9.3% reported never smoking conventional cigarettes. Among middle school ever e-cigarette users, 61.1% were current smokers and 20.3% never smokers. Among high school ever e-cigarette users, 80.5% were current smokers and 7.2% never smokers. Further analysis of the survey was conducted by Dutra & Glantz.²⁷

This used only the sample with complete data for tobacco cigarette and e-cigarette use and demographic variables for 17,353 children (92%) in 2011 and 22,529 (91%) in 2012. They found that ever e-cigarette users were significantly more likely to be male ($p<0.01$), white ($p<0.01$), and older ($p<0.01$) than the full sample. In addition, current use of e-cigarettes was associated with ever cigarette smoking ($OR=7.42$, $95\%CI=5.63-9.79$) or current cigarette smoking ($OR=7.88$, $95\%CI=6.01-10.32$).

At least two smaller surveys of e-cigarette use in children have been conducted in the USA and published. One study in two schools, one in Connecticut and the other in New York, was conducted with 14 to 18-year olds in three waves from February 2010 to June 2011.²⁸ During this period, the proportion of young people who reported that they had used an e-cigarette in the last 30 days increased from 0.9% in wave 1 to 2.3% in wave 3

($p < 0.01$). Current tobacco cigarette smokers had increased adjusted odds of using e-cigarettes in the past 30 days in all three study waves. A second, smaller study from the USA collected data in November 2011 using a self-completion survey with 228 11 to 19-year old boys (mean age 15.1 years) in North Carolina.²⁹ Ninety-one percent of the sample were non smokers. Asked if they had ever tried an e-cigarette, <1% (2 respondents) reported having tried them. Both respondents were smokers.

Finally, an in press but currently unpublished review of a range of surveys from the USA (as well as some other countries) has examined reports of e-cigarette use in children between 2011 and 2012.³⁰ In 2011, reported ever-use among young people aged 11 to 19 was <1-3.3%. However, looking across studies, in 2012 adolescent ever-use increased to 6.8% and increased with age. Most use was occurring in young people who were smokers, but the authors noted that reports of ever use in non smokers was rising.

3.3 Other countries

Further data on e-cigarette use among children is available from South Korea and Poland along with one small study from France.

Lee and colleagues conducted a cross-sectional survey involving a nationally representative sample of school pupils aged 13 to 18 years in South Korea in 2011.³¹ The survey was conducted online in the classroom and included 75,643 respondents. On e-cigarettes, the survey asked about ever use and use within the past 30 days. It found that 9.4% of 13 to 18-year olds have ever used e-cigarettes. Of these, 8% had ever used e-cigarettes and tobacco cigarettes, and 1.4% had ever used e-cigarettes only.

In terms of more frequent use, just 4.7% had used e-cigarettes in the last 30 days; of these, 3.5% had used e-cigarettes and tobacco cigarettes in the last 30 days and 1.1% had used e-cigarettes only in the last 30 days.

Further analysis of the results found that pupils who had smoked tobacco in the past 30 day were significantly more likely than never or former cigarette smokers to use e-cigarettes ($p < 0.01$), and those that had smoked every day over the past 30 days had the highest rate of current e-cigarette use (50.8%), compared with 0.6% among those who were not current cigarette smokers ($p < 0.001$). Similar to findings in the USA, the survey found that e-cigarette use was significantly higher for boys ($p < 0.001$), older students ($p < 0.001$) and those who received larger weekly allowances (pocket money; $p < 0.001$).

A smaller study in Korea, involving a regional sample of children from five schools (aged 12 to 18 years), was conducted in 2008.³² E-cigarette use was not as prevalent in any country during this period and the study found that less than 1% of children had ever tried an e-cigarette (n=22) but within this group, having tried an e-cigarette was associated with current smoking ($p<0.001$), being male ($p<0.001$) and having smokers in the family ($p<0.05$).

In Poland a large survey of school and university students in urban and rural areas, between September 2010 and June 2011, included questions on e-cigarettes³³. Within these results it was possible to separate those from older participants with those under the age of 20. There were 11,920 11 to 19-year olds in the study. Among this group, 23.5% reported ever having used an e-cigarette and 8.2% reported use at least once in the previous 30 days.

Finally, a survey including a representative survey of 12 to 19-year old school pupils in Paris was conducted in the spring of 2012 (n=3,409)³⁴. This found that 8.1% had tried e-cigarettes on at least one occasion; 4.4% of non smokers and 33.4% of regular smokers.

4. E-cigarette marketing

One of the reasons that e-cigarettes have become increasingly popular is the marketing of these products, which is currently difficult to regulate and has prompted calls for a consultation by the Advertising Standards Authority (ASA) in the UK. This marketing may appeal to children as well as adults. However, there has been very limited research on this element of e-cigarettes to date.

The first systematic audit and thematic content analysis of the marketing of e-cigarettes in the UK was recently published by Cancer Research UK.⁹ The study analysed traditional media reports, press releases, web and trade press publications, magazines, tobacco industry periodicals, television adverts and social media platforms between May 2012 and June 2013. It noted that many small, independent e-cigarette companies and tobacco multinationals were producing a wide array of products and that marketing was extensive.³⁵

4.1 Nature of marketing

E-cigarettes are targeted at adult smokers as a cheaper and healthier alternative to smoking and also positioned as socially attractive and part of a rapidly growing trend. Celebrity endorsements, online promotions with

competitions, mobile phone apps, group discount vouchers, computer games and other forms of social media are used to publicise e-cigarettes as lifestyle products. More traditional forms of marketing such as on billboards, in magazines and other print media and more recently on television are also used. Sponsorship for various sports including motor and powerboat racing is also a key promotional strategy and one company has sponsored a football youth team's strip. E-cigarettes are also sold en route to music events such as Glastonbury, at other cultural and sporting events, in shopping centre kiosks, on company websites, in specialist shops and e-lounges.

Numerous flavours from beer to banana and bubblegum and variations such as e-shisha are promoted in colourful and innovative packaging. Blu Ecigs, for example, introduced 'smart packs' that alert users when they come into fifty feet of other users – both packs start vibrating and flashing a blue light. The packs can be set to transmit Facebook and Twitter profiles in the event that users do not wish to approach others in real life settings, but would rather make virtual friends.⁹

Celebrity endorsements are also used to promote e-cigarettes. E-cigarettes were used during 2014's Golden Globes by Leonardo DiCaprio and other celebrities. Lily Allen, Britney Spears, Sean Penn, John Cusack, Jack Nicholson and Katy Perry vaped at the BRIT awards while Michael Fassbender used an e-cigarette at the BAFTAs, and Kevin Spacey vaped in the television series 'House of Cards'.³⁶ E-Lites was the first company to use e-cigarette product placement in a music video for Lily Allen.³⁷

4.2 Advertising restrictions

As consumer products, e-cigarettes are subject to some restrictions on marketing through the Advertising Standards Authority (ASA) advertising rules. However, complaints about claims in e-cigarette advertising – for example, that products are 'harmless' and 'risk free' and can be used 'anywhere you want' – have had little impact to date.

The first e-cigarette television advert on a national, mainstream British channel was launched by the brand E-Lites in January 2013. It was banned by the ASA nine months after it was first broadcast for not making it clear whether the product contained nicotine, and for its likely appeal to children. However, the advertisement is still available on the E-Lites' social media platforms and YouTube. Another television advertisement for 5 Colors was outlawed for not clarifying that the product was an e-cigarette, that it did not contain nicotine, and was not available to those under the age of 18.³⁸ A further television advertisement by the e-cigarette company VIP was also banned before the watershed after receiving 1156 complaints. The ASA

acknowledged it was 'sexually provocative' and 'likely to cause serious and widespread offence' to some viewers.³⁹

4.3 Recent marketing

The research conducted for Cancer Research UK also noted that e-cigarette marketing appears to be accelerating. During the 13-month research period, 121 product trademark applications were made including 12 in the fortnight following the MHRA announcement to regulate e-cigarettes as medicines.⁹ Since the study completed, e-cigarette marketing has continued to increase.

As detailed in Table 1 (overleaf), approximately £8 million was spent by Skycig, Vype, Gammuci and E-Lites marketing on all media – press, television, radio, internet and outdoor – combined in 2013.¹⁹

In November 2013, BAT's subsidiary Nicoventures launched a £3.6 million television advertising campaign called 'Experience the breakthrough', which aimed to position the product as the real alternative to smoking and represented a breakthrough moment for smokers.⁴¹ It featured 'two good-looking, healthy young adults running through smart modern city streets at speed – fast, fit, sexy, healthy, cool'.⁴² Strong sales for Lorillard's US brand, Blu Ecigs, 'resulted from significant brand building activities highlighted by a national television advertising campaign, expansion of retail distribution into a total of approximately 136,000 retail outlets, the launch of new, lower priced rechargeable kits and strong repeat purchases'.⁴³

Skycig also recently announced its investment in a £20 million marketing campaign including television advertising and public relations (PR) companies have now been appointed to reposition Skycig as 'a positive lifestyle choice for smokers'.¹⁹ Marketing strategies will focus 'on passion points stretching from sport to fashion' and music.⁴⁴ Most competitor companies have also hired advertising and PR agencies to promote expensive 'above-the-line' marketing campaigns.⁴⁵

Table 1: Marketing spend on all media for four e-cigarette brands in 2013 ⁴⁰

Companies	Brands	Date by Months	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	TOTAL
		Media	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)	Spend (£)
Zandera	E-Lites	Press	233,419	46,867	87,233	245,108	161,144	138,657	149,647	137,134	136,076	112,787	117,039	311,447	1,876,557
		TV	162,069	341,645	90,434	0	16,633	28,374	0	17,348	0	0	0	0	656,502
		Internet	100,527	168,931	105,923	133,893	57,478	753	1,256	704	3,925	1,931	445	3,118	578,887
		Outdoor	77,373	0	0	0	0	0	0	0	0	0	0	0	77,373
Nicoventures	Vype	Outdoor	0	0	0	0	0	0	0	0	0	0	1,374,564	1,036,715	2,411,279
		Press	0	0	0	0	0	0	0	0	108,157	23,258	294,598	57,544	483,557
		Internet	0	0	0	0	0	0	0	44,968	79,541	42,187	1,758	28,659	197,112
SKYCIG	SkyCig	Press	351,577	0	38,826	0	0	39,583	20,082	182,867	133,174	0	0	0	766,108
		TV	12,638	0	0	0	0	0	0	0	0	0	0	43,089	55,727
		Internet	12	0	0	0	0	9,105	8,380	21,713	0	0	0	1	39,212
		Outdoor	0	0	0	0	0	0	0	0	14,156	6,250	0	0	20,406
Njoy	NJOY King	TV	0	0	0	0	0	0	0	0	0	0	0	236,141	236,141
		Outdoor	0	0	0	0	0	0	0	0	0	0	229,774	0	229,774
		Press	0	0	0	0	0	0	3,770	12,008	23,323	36,589	87,601	15,187	178,477
		Radio	0	0	0	0	0	0	0	0	0	7,219	38,243	0	45,463
		Internet	0	0	0	0	0	0	0	0	0	302	984	0	1,286
Gamucci	Gamucci	Press	74,283	43,641	29,545	0	0	8,751	75,211	21,126	62,139	83,780	79,575	41,055	519,106
		Internet	0	0	0	0	0	0	0	0	35	4,146	1,691	16	5,887
TOTAL (All)			1,011,897	601,084	351,961	379,001	235,255	255,223	258,349	437,868	560,525	318,448	2,226,271	1,772,973	8,378,853

4.4 Innovation

Product innovations are growing as e-cigarette brands differentiate themselves from their rivals. ECigaretteDirect has stated that half of its sales comes from the internet and driven by community recommendations, innovations, social media and blogging.⁴⁶ Supersmoker Club has introduced an e-cigarette with Bluetooth that is compatible with androids, iOS devices or tablets to allow users to make calls or listen to music while vaping.⁴⁷ Smokio has developed an e-cigarette that gives smokers statistics about their consumption via a mobile app.⁴⁸ Meanwhile, the UK brand JAC Vapour has launched 'Clear Steam' – the first e-liquid to emit no vapour when exhaled to 'revolutionise vaping in public spaces'.⁴⁹

Niche products such as e-hookahs and e-cigars are also appearing. Totally Wicked launched Odyssey VV with a 'variable voltage' for vapers to reach their ideal output. Freshcig e-liquid expanded to eighteen flavours including Black Forest Gateau and Pina Colada, while Vype's distinguishing feature is its 'realistic' tip with a similar weight and feel to normal cigarettes sold in classic and menthol. A 'tiering of the market' according to price and quality is also developing. VIP, for example, promotes 'premium e-liquids' while Vype is marketed as a 'pharmaceutical-grade' product.³

'Sleek and elegant electronic cigarettes and fashion accessories' have also arrived on the market designed especially for females. VMR's line Vapor Couture includes flavours such as Rodeo Drive and Bombshell and comes with complementary accessories including a 'sterling silver charm necklace' and 'leather smartphone/e-cig clutch'.⁵⁰ Many more e-cigarette stores have emerged on the high street selling flavours such as tiramisu and champagne and the number is expected to increase – in Italy, for example, there are more than 200 vape stores.³⁶

4.5 Place of sale

Two e-cigarettes owned by tobacco companies are now being sold in pharmacies even though the Royal Pharmaceutical Society's advises against this. In January 2014, Lloyds Pharmacy began selling Vype and Boots pharmacies began selling Puritane, the e-cigarette brand owned by Imperial tobacco's subsidiary Fontem.⁵¹

Rapid growth in the UK has been attributed to the consolidated nature of the market. Vype, for example, is sold in Sainsbury's superstores and forecourts, Tesco Express, Tesco and Shell forecourts and McColl's and Spar c-stores.³ A recent study describing the availability and in-store marketing of e-cigarettes in the UK concluded that the sale and use of the products are resulting in an 'increasing public presence of cigarette-like images and smoking behaviour'.⁵² More than half of the shops audited in the observational study of 108 small and large stores selling alcohol and tobacco in London sold e-cigarettes, and half of those had portable, point-of-sale (POS) e-cigarette displays.

4.6 Future developments

Through the European Union Tobacco Products Directive, restrictions on the advertising of e-cigarettes will be required when the Directive comes into force, which is currently scheduled for 2016. In the meantime in the UK a public consultation on e-cigarette marketing was launched by the Committees of Advertising Practice in February 2014 to decide what levels of advertising controls are needed.⁵³ The main consultation proposals include rules to protect young, vulnerable and non or former nicotine users and proposals to bar e-cigarette advertisements from appealing to under 18s or displaying to anyone under 25 using the product. In addition, the consultation proposes regulations explicitly addressing concerns about indirect promotion of tobacco products via advertising of e-cigarettes; proposals to ban health claims for e-cigarettes unless products have been licensed as medicines; and the need for marketers to state whether advertised e-cigarettes contain nicotine. Results from the consultation are expected later in 2014.

5. Conclusion

The electronic cigarette market in the UK and overseas is extensive and growing. While there are a number of independent manufacturers of the products, transnational tobacco companies are increasingly active in the market. This includes developing e-cigarettes that may in the future be licensed as medicines.

E-cigarette use in the UK is not limited to adult smokers, but also includes children and young people who smoke as well as a very small proportion of young non smokers under the age of 18. The surveys we identified were all conducted between 2010 and 2013 and use a variety of definitions of access, involved different age groups and were conducted in a range of settings, so comparisons are difficult to make. What is clear is that, with the exception of one Polish survey, ever use was reported by fewer than one in ten children in existing studies, and in the only available national study in the UK study, it was 7%. Ever use is concentrated in young people who smoke, although the studies that look at changes between one or more years do report increasing uptake in never smokers. We could not identify any evidence to suggest that non smoking children who tried e-cigarettes were more likely to then try tobacco. Longitudinal research will be required to answer that question, and to date this is not available.

The marketing of e-cigarettes is currently extensive. Both independent manufacturers and those owned by the tobacco industry are investing in almost every conceivable form of promotion from print media to television, sport sponsorship, celebrity endorsement and social media. E-cigarettes are marketed as lifestyle products and are available in a wide range of flavours and in packaging that is likely to appeal to children and young people. They are also available for sale in an extensive range of venues including some pharmacies. Product and promotional innovation is continuing. Controls on advertising have been called for and are likely to be introduced in the future, both in the UK following an advertising standards consultation, and at European level through the Tobacco Products Directive.

References

1. MHRA (2013). *Product-specific information and advice: Nicotine containing products*. December 31. <http://www.mhra.gov.uk/Safetyinformation/Generalsafetyinformationandadvice/Product-specificinformationandadvice/Product-specificinformationandadvice%E2%80%93M%E2%80%93T/Nicotinecontainingproducts/index.htm>
2. NICE (2013). *Tobacco: harm-reduction approaches to smoking*. NICE public health guidance 45. <http://guidance.nice.org.uk/PH45>
3. Chittock M (2014). Focus on e-cigarettes: A touch of the vapours. *The Grocer*, February 15th: 51-52, 54
4. Clarke J (2014). E-cigarette market 'booming'. *Press Association MediaPoint*, February 28.
5. ASH (Action on Smoking and Health) (2014). *Electronic Cigarettes*. London: ASH; January. http://ash.org.uk/files/documents/ASH_715.pdf
6. Jefferies T (2014). Can e-cigarettes relight investor's fire for tobacco shares – and which of the British 'big two' BAT and Imperial should you buy? *This is Money*. <http://www.thisismoney.co.uk/money/investing/article-2559511/Which-tobacco-company-buy-BAT-Imperial.html> Accessed on 22/3/2014
7. Gara T (2013). More e-cigarettes in the hands of Big Tobacco. *The Wall Street Journal*. <http://blogs.wsj.com/corporate-intelligence/2014/02/03/more-e-cigarettes-in-the-hands-of-big-tobacco/>. Accessed 11/3/2014
8. London Stock Exchange Aggregated Regulatory News Service (ARNS) (2013). *British American Tobacco PLC Final Results*, February 28. <http://www.londonstockexchange.com/exchange/news/market-news/market-news-detail.html?announcementId=11876713>
9. de Andrade M, Hastings G, Angus K, Dixon D and Purves R (2013). *The Marketing of Electronic Cigarettes in the UK*. Cancer Research UK: London http://www.cancerresearchuk.org/prod_consump/groups/cr_common/@nre/@pol/documents/generalcontent/cr_115991.pdf
10. TobaccoTactics (2014). *Companieshouse, Nicoventures Holding Ltd, Webcheck, latest entry 21 January 2014*. http://www.tobaccotactics.org/index.php/E-cigarettes#cite_note-0. Accessed January 2014
11. Goh B (2013). Imperial Tobacco to develop e-cigarettes as profits drop. *Reuters*, 30 April. <http://uk.reuters.com/article/2013/04/30/uk-imperialtobacco-idUKBRE93T09J20130430>
12. Drugfree.org (2013). *Tobacco Companies Move into E-Cigarette Business*. [website]. <http://www.drugfree.org/uncategorized/tobacco-companies-move-into-e-cigarette-business>
13. Progressive Media – Company News (2014). *Lorillard reports fourth quarter & full year 2013 results*. February 13.
14. Furman P, Dominguez R (2013). Philip Morris, the maker of Marlboro cigarettes, is moving into the electronic cigarette market. *New York Daily News*, 11 June. <http://www.nydailynews.com/new-york/malboro-man-peril-article-1.1369911>
15. Esterl M (2014). Altria expands in e-cigarettes with Green Smoke. *The Wall Street Journal*. <http://online.wsj.com/news/articles/SB10001424052702304626804579360552508696542>. Accessed on 11/3/2014
16. Hedley D (2012). The changing future and a new vocabulary for the tobacco industry. *Tobacco Journal International*, Aug/Sept: 93-94.
17. UK Government News (HT Media Ltd.) (2014). *United Kingdom Intellectual Property Office Publishes Application for Trademark "cirro" to Ten Motives for Multiple Goods*. 23 February.
18. Market Watch, The Wall Street Journal (2014). *Press Release: Victory Electronic Cigarettes and FIN Branding Group sign definitive merger agreement to create one of the world's largest independent ECIG companies*. February 12. <http://www.marketwatch.com/story/victory-electronic-cigarettes-and-fin-branding-group-sign-definitive-merger-agreement-to-create-one-of-the-worlds-largest-independent-ecig-companies-2014-02-12-121735841> Accessed 16/3/2014

19. Chapman M (2014). Wolves in sheep's clothing? Big Tobacco and its takeover of the e-cigarette market. *Marketing*, February 24. <http://www.marketingmagazine.co.uk/article/1281851/wolves-sheeps-clothing-big-tobacco-its-takeover-e-cigarette-market>
20. Business Briefing (2014). multiVAPE: National e-cigarette firm multiCIG. *Nottingham Evening Post*, March 3: 23
21. Green K (2014). Essentra delivers, but its shares dither. *Investors Chronicle*, February 20. <http://www.investorschronicle.co.uk/2014/02/20/shares/news-and-analysis/essentra-delivers-but-its-shares-dither-auM0vdpppC4lyLvXzsj4oN/article.html>
22. Atherton J (2014). E-Lites duo look to blaze a trail on global quest. *Metro (UK)*, February 20: 48.
23. ASH (Action on Smoking and Health) (2013). *Use of e-cigarettes in Great Britain among adults and young people (2013)*. London: ASH; May. http://www.ash.org.uk/files/documents/ASH_891.pdf
24. Mustard & TSNW (2013). Alternative Forms of Smoking. In: *Young Persons' Alcohol and Tobacco Questionnaire report*. Online: http://tobaccofreefutures.org/wp-content/uploads/2013/07/8353_TSNW-Young-Persons-Alcohol-Tobacco-Report_130605_V3.pdf
25. CDC (Centers for Disease Control and Prevention) (2013a). Notes from the field: electronic cigarette use among middle and high school students - United States, 2011-2012. *MMWR Morbidity and Mortality Weekly Report*, 62(35): 729-730. <http://www.cdc.gov/mmwr/pdf/wk/mm6235.pdf>
26. CDC (Centers for Disease Control and Prevention) (2013b). Tobacco product use among middle and high school students--United States, 2011 and 2012. *MMWR Morbidity and Mortality Weekly Report*, 62(45): 893-897. [Erratum in: *MMWR*, 62(46): 940.] <http://www.cdc.gov/mmwr/pdf/wk/mm6245.pdf>
27. Dutra LM and Glantz SA (2014). Electronic cigarettes and conventional cigarette use among US adolescents: a cross-sectional study. *JAMA Pediatrics*, online March 6. [doi:10.1001/jamapediatrics.2013.5488](https://doi.org/10.1001/jamapediatrics.2013.5488)
28. Camenga DR, Delmerico J, Kong G, Cavallo D, Hyland A, Cummings KM and Krishnan-Sarin S (2014). Trends in use of electronic nicotine delivery systems by adolescents. *Addictive Behaviors*, 39(1): 338-340. [doi:10.1016/j.addbeh.2013.09.014](https://doi.org/10.1016/j.addbeh.2013.09.014)
29. Pepper JK, Reiter PL, McRee AL, Cameron LD, Gilkey MB and Brewer NT (2013). Adolescent males' awareness of and willingness to try electronic cigarettes. *Journal of Adolescent Health*, 52(2): 144-150. [doi:10.1016/j.jadohealth.2012.09.014](https://doi.org/10.1016/j.jadohealth.2012.09.014)
30. Chapman SLC & Wu LT (in press). E-cigarette prevalence and correlates of use among adolescents versus adults: a review and comparison. *Journal of Psychiatric Research*, online March 18 2014. [doi:10.1016/j.jpsychires.2014.03.005](https://doi.org/10.1016/j.jpsychires.2014.03.005)
31. Lee S, Grana RA and Glantz SA (2013). Electronic cigarette use among Korean adolescents: a cross-sectional study of market penetration, dual use, and relationship to quit attempts and former smoking. *Journal of Adolescent Health*, online Nov 22. [doi:10.1016/j.jadohealth.2013.11.003](https://doi.org/10.1016/j.jadohealth.2013.11.003)
32. Cho JH, Shin E and Moon SS (2011). Electronic-cigarette smoking experience among adolescents. *Journal of Adolescent Health*, 49(5): 542-546. [doi:10.1016/j.jadohealth.2011.08.001](https://doi.org/10.1016/j.jadohealth.2011.08.001)
33. Goniewicz ML and Zielinska-Danch W (2012). Electronic cigarette use among teenagers and young adults in Poland. *Pediatrics*, 30(4): e879-e885. [doi:10.1542/peds.2011-3448](https://doi.org/10.1542/peds.2011-3448)
34. Dautzenberg B, Birkui P, Noël M, Dorsett J, Osman M and Dautzenberg MD (2013). E-cigarette: a new tobacco product for schoolchildren in Paris. *Open Journal of Respiratory Diseases*, 3: 21-24. [doi:10.4236/ojrd.2013.31004](https://doi.org/10.4236/ojrd.2013.31004)
35. de Andrade M, Hastings G and Angus K (2013). Promotion of electronic cigarettes: tobacco marketing reinvented? *BMJ Open*, 347: f7473. [doi:10.1136/bmj.f7473](https://doi.org/10.1136/bmj.f7473)
36. Theobald S (2014). Smoke without fire: nicotine-dependent A-listers are swapping their smokes for vapes. *The Evening Standard (London)*, March 7: 30-31
37. Chapman, M (2014). E-Lites secures product placement 'first' in Lily Allen's 'Hard Out Here' video. <http://www.marketingmagazine.co.uk/article/1220802/e-lites-secures-product-placement-first-lily-allens-hard-here-video> Accessed 18/3/2014
38. Advertising Standards Authority (2013). *No smoke without fire? Advertising of electronic cigarettes*. <http://www.asa.org.uk/News-resources/Media-Centre/2013/Advertising-of-electronic-cigarettes.aspx> Accessed on 15/3/2014
39. Advertising Standards Authority (2014). http://www.asa.org.uk/Rulings/Adjudications/2014/2/Must-Have-Ltd/SHP_ADJ_249268.aspx. Accessed on 12/3/2014

40. Chapman M (2014). Wolves in sheep's clothing? Big Tobacco and its takeover of the e-cigarette market. *Marketing*, February 24. <http://www.marketingmagazine.co.uk/article/1281851/wolves-sheeps-clothing-big-tobacco-its-takeover-e-cigarette-market>
41. Campaign (2014). *Private View*. March 7: 28
42. Murray M (2014). What is fascinating to watch are the developments with e-cigarettes. Big Tobacco is playing a blinder. *The Sunday Business Post*, March 9.
43. Progressive Media – Company News (2014). *Lorillard reports fourth quarter & full year 2013 results*. February 13.
44. Owens J (2014). Skycig calls in W and Cake to help with brand shift. *PR Week*, March 13. <http://www.prweek.com/article/1284951/skycig-calls-w-cake-help-brand-shift>. Accessed on 13/3/2014
45. McCabe M (2013). E-cigarette brand Njoy hires Walker Media ahead of push. *Brand Republic*, November 8. <http://www.brandrepublic.com/news/1220208/>. Accessed 18/03/14
46. Frost M (2014). Halo effect helps boost sales of e-cigarettes. *The Express*, February 19: 41.
47. PR Newswire Europe (2014). *Supersmoker Club Launches the World's First e-Cigarette With Bluetooth Phone Function*, February 18
48. DmEurope (2014). Smokio links e-cigarette to mobile app. *DmEurope*, February 7
49. PR Newswire Europe (2014). *British e-cigarette brand launches vapourless e-liquid to address vaping bans* March 12
50. Reuters (2014). VMR unveils first electronic cigarette brand for women. March 7th. <http://www.reuters.com/article/2014/03/17/idUSnMKWKI6pVa+1e2+MKW20140317> Accessed 19/3/2014
51. The Pharmaceutical Journal (2014). *Boots and Lloyds Pharmacy join the vaping fold by selling e-cigarettes*. February 13 292:154 http://www.pjonline.com/news/boots_and_lloyds_join_the_vaping_fold_by_selling_ecigarettes
52. Hsu R, Myers AE, Ribisl KM and Marteau TM (2013). An observational study of retail availability and in-store marketing of e-cigarettes in London: potential to undermine recent tobacco control gains? *BMJ Open*, 3(12): e004085. doi:10.1136/bmjopen-2013-004085
53. Advertising Standards Authority (2014). *Consultation on new advertising rules for electronic cigarettes*. <http://www.cap.org.uk/News-reports/Media-Centre/2014/Consultation-on-new-advertising-rules-for-electronic-cigarettes.aspx>. Accessed 10/3/2014