

# Use of e-cigarettes among young people in Great Britain

June 2021

## Purpose

The evolving youth use of e-cigarettes in Britain is monitored using the ASH Smokefree GB survey of 11-18 year olds 2013-2021,<sup>1</sup> and put in context of changes in tobacco use and the regulation of e-cigarettes (see Appendix 1).

## Key findings

- A large majority of 11-17 year olds have never tried (77.7%) or are unaware of e-cigarettes (10.5%).
- In 2021 11.2% of 11-17 year olds had tried vaping, compared to 13.9% in 2020. This is largely unchanged from 2015 when 11.6% of 11-17 year olds had tried e-cigarettes.
- Children under 16 are least likely to try e-cigarettes. Only 6.5% of 11-15 year olds have tried vaping, compared to 23.2% of 16-17 year olds. Just under a third of 18 year olds report trying an e-cigarette (30.1%)
- The main source for both cigarettes and e-cigarettes is shops. 60% of 11-17 year olds get their cigarettes from shops, compared to 41.9% for e-cigarettes
- Young people aged 11-18 years old vape mainly just to give it a try (49.3%) not because they think it looks cool (1.2%). They are unlikely to choose e-cigarettes because they are easier to access (1.1%) or cheaper (0.8%) than tobacco cigarettes.
- The perception among 11-18 year olds that cigarettes and e-cigarettes are equally harmful has been increasing since 2013. Only 43.8% of 11-18 year olds in 2021 believed that e-cigarettes were less harmful than cigarettes.

In conclusion, data from the 2021 ASH YouGov Smokefree youth GB survey suggest that while some young people experiment with e-cigarettes, particularly those who have tried smoking, regular use remains low. Likelihood of trying or currently using e-cigarettes increases with age and smoking status. However, continued surveillance is needed.

## Introduction

Unless otherwise specified the data are from the ASH smokefree GB survey of 11-18 year olds 2013-2021 (for methodology see Appendix 1) This covers a period of rapid growth in adult use of e-cigarettes up to 2015 (ref ASH factsheet on Use of e-cigarettes among adults in Great Britain, 2020), when there was no age of sale or prohibition of advertising, and the period from 2015 onwards when such regulations were introduced (see Appendix 2). To support better understanding of the impact of regulatory changes on young people some of the findings in this update compare the period prior to 2015 regulations to the years that followed.

The overall trend in tobacco use over time in both adults and children has been downwards from 2010 onwards when e-cigarette use became widespread among adult smokers and ex-smokers ref APS and Smoking Drinking and Drug Use survey.

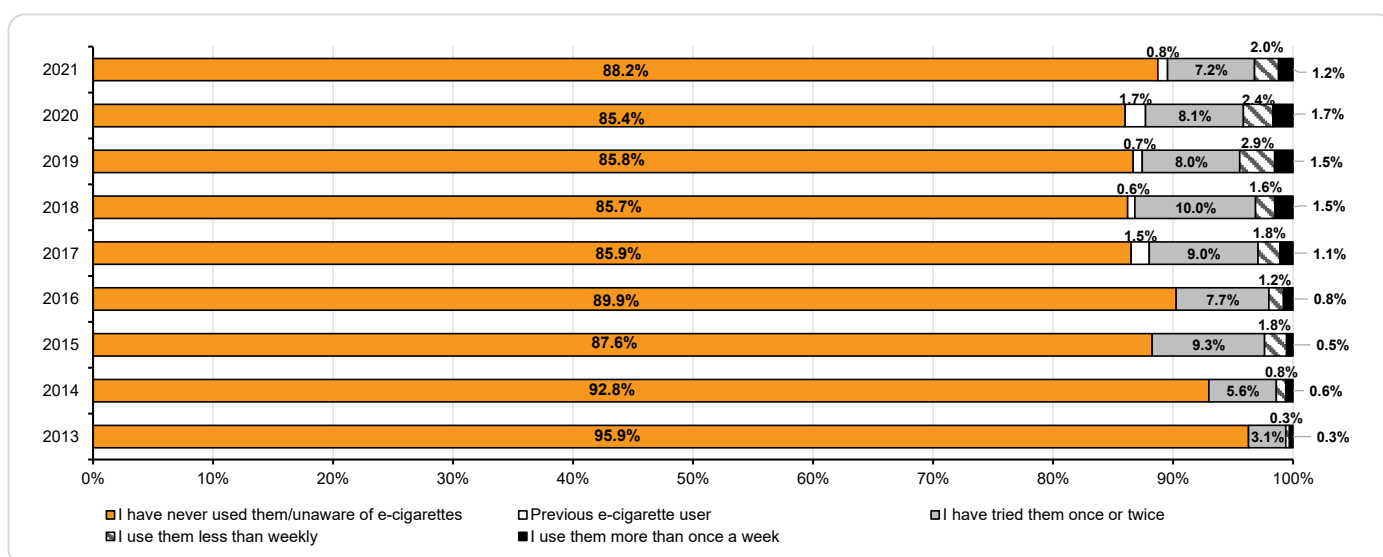
## Awareness of e-cigarettes is high but regular use remains very low

Awareness of e-cigarettes amongst young people has risen significantly from 2013 when 64% of 11-17 year olds were aware of e-cigarettes to 2015 when it reached 91%. It has remained at a similar level since then: in 2021 the rate of awareness of e-cigarettes in young people was 89.5%.

A large majority of 11-17 year olds have never tried e-cigarettes. In 2021, 11.2% of 11-17 year olds had tried vaping, compared to 13.9% in 2020. In 2015, before the regulations prohibiting the sale of e-cigarettes to under 18s were introduced, 13.9% of 11-17 year olds had tried e-cigarettes. In 2021, 73.1% of 11-17 year olds who have tried e-cigarettes said they have not used them in the last month.

Regular use of e-cigarettes increased between 2015 and 2019, although it continued to be rare in young people aged 11-17. However, in 2021 there was not an increase compared to 2020 with 1.2% of respondents said they use e-cigarettes more than weekly with another 2.0% using them less than weekly, compared to 1.7% and 2.4% in 2020 (Figure 1). The proportion of 11-17 year olds who have never tried an e-cigarette has been fairly stable since 2017 ranging from 85.9% to 88.2%.

**Figure 1. Use of e-cigarettes by GB youth (11-17), 2013-2021**



ASH Smokefree GB Youth Survey(s). Unweighted base: All 11-17 year olds (2013 = 1,220, 2014 = 1,895, 2015 = 1,834, 2016 = 1,735, 2017 = 1,968, 2018 = 1,807, 2019 = 1,863, 2020 = 1,909, 2021 = 1,905). Percentages have been rounded to the nearest decimal place.

There has also been an increase in 11-18 year old current e-cigarette use since 2015 from 2.4% to 4.1% in 2021, but only 1.5% of young people used e-cigarettes more than once a week in 2021. Current use of e-cigarettes among 11-18 year olds is higher among current smokers (43.5%) than former smokers (14.1%), and it is very low in never smokers (0.7%).

This represents a slight increase from 2020 whereby current use of e-cigarettes among 11-18 year olds was (45.0%) among current smokers, (11.4 %) among former smokers and (0.7%) in never smokers.

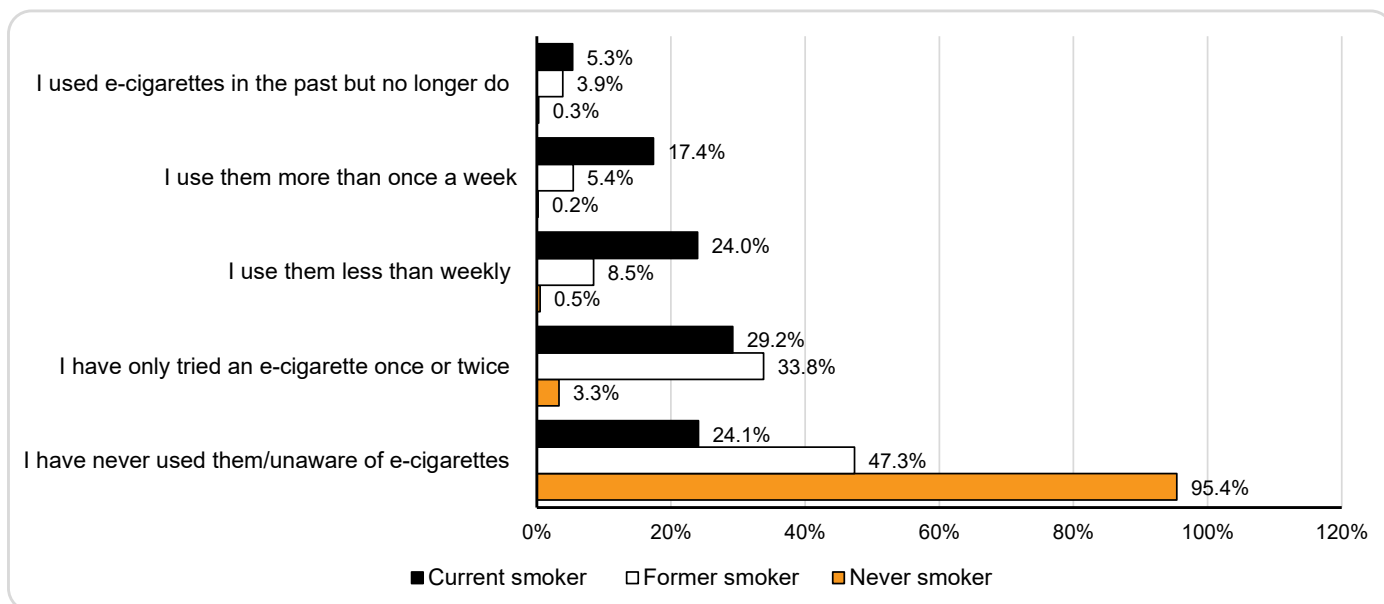
## Regular use of e-cigarettes remains rare in young never smokers

Use of e-cigarettes remains largely confined to current or former smokers. The overwhelming majority, 95.4% in total, of 11-17 year old never smokers have either never used an e-cigarette (84.3%) or are not aware of them (10.7%). (Figure 2)

Of 11-17 year old never smokers, 3.3% have tried e-cigarettes once or twice, 0.5% use them less than weekly, and 0.2% use e-cigarettes more than once a week. Only 1 single never smoker reported vaping daily, and only 0.3% were previous users of e-cigarettes. These low figures represent very small numbers of individuals, so any comparisons between them need to be interpreted with caution.

Current use of e-cigarettes among 11-17 year olds is considerably higher among current smokers (41.3%) than former smokers (13.9%).

**Figure 2. Use of e-cigarettes by tobacco smoking status, GB youth (11-17), 2021**

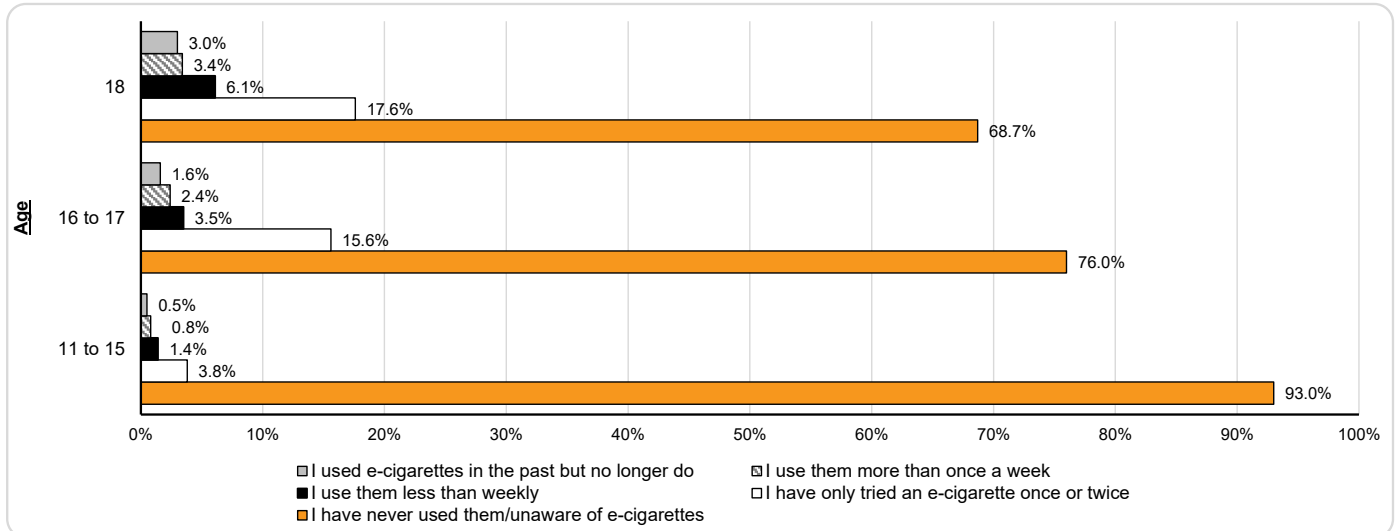


*ASH Smokefree GB Youth Survey 11-17 year olds, 2021 (Unweighted bases: Never smokers = 1,785, former smokers = 231, current smokers = 76). Percentages have been rounded to the nearest decimal place.*

## There is a gradient in use by age

The prevalence of regular use and experimentation increases with age. Of 11-15 year olds, 93.0% have never used or are unaware of e-cigarettes, compared to 68.7% of 18 year olds. Only 0.8% of 11-15 year olds use e-cigarettes more than weekly compared to 2.4% of 16-17 year olds (Figure 3).

**Figure 3. Use of e-cigarettes by age, GB youth (11-15, 16-17 and 18), 2021**



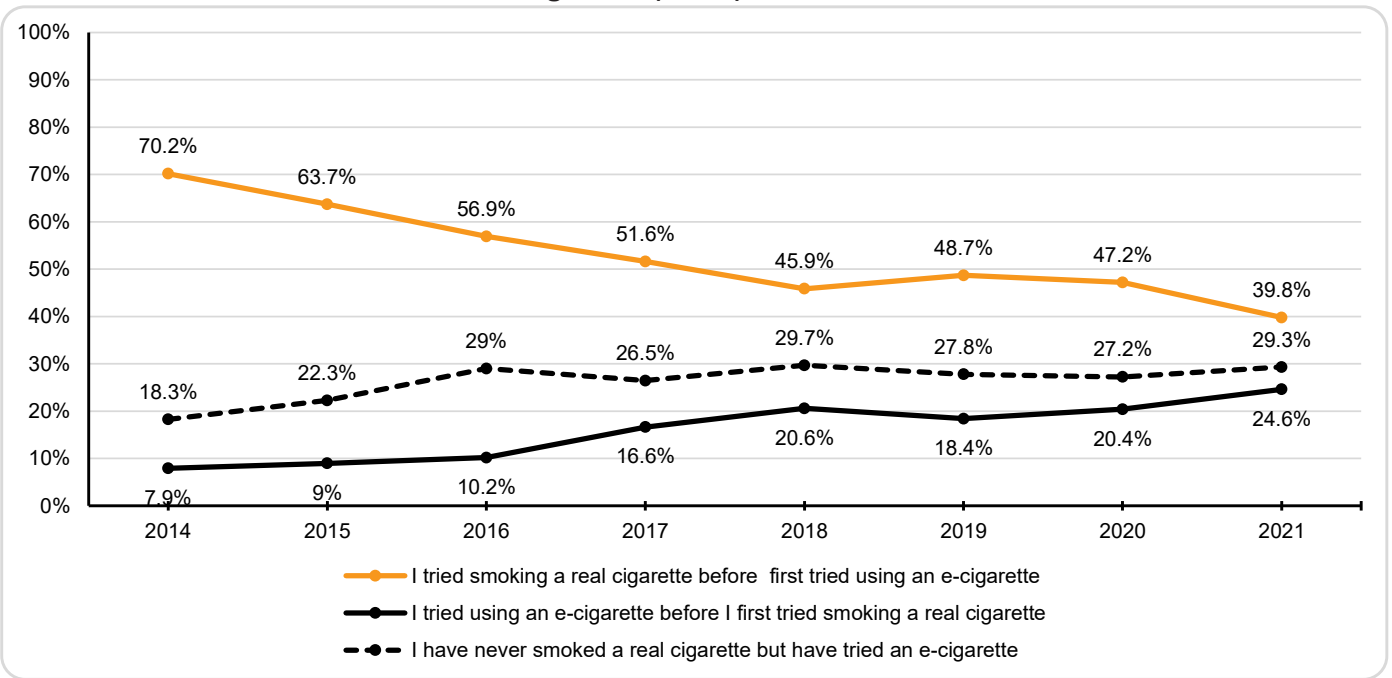
ASH Smokefree GB Youth Survey, 2021. Unweighted bases: All 11-18 year olds (11 = 158, 12 = 339, 13 = 268, 14 = 253, 15 = 329, 16 = 276, 17 = 486, 18 = 404). Percentages have been rounded to the nearest decimal place.

## Order of use of e-cigarettes and tobacco cigarettes among 11-18 year olds

There has been a shift over time in the order of use between tobacco cigarettes and e-cigarettes. The number of 11-18 year olds smoking before vaping has decreased: in 2021, 39.8% who had tried e-cigarettes had tried a tobacco cigarette beforehand (70.2% in 2014). This is the lowest level recorded since 2014. The proportion of young people trying e-cigarettes first has increased to 24.6% in 2021 (7.9% in 2014), this is also the highest level recorded since 2014. The number people who had tried an e-cigarette that had never smoked was 29.3% in 2021. (18.3% in 2014) (Figure 4).

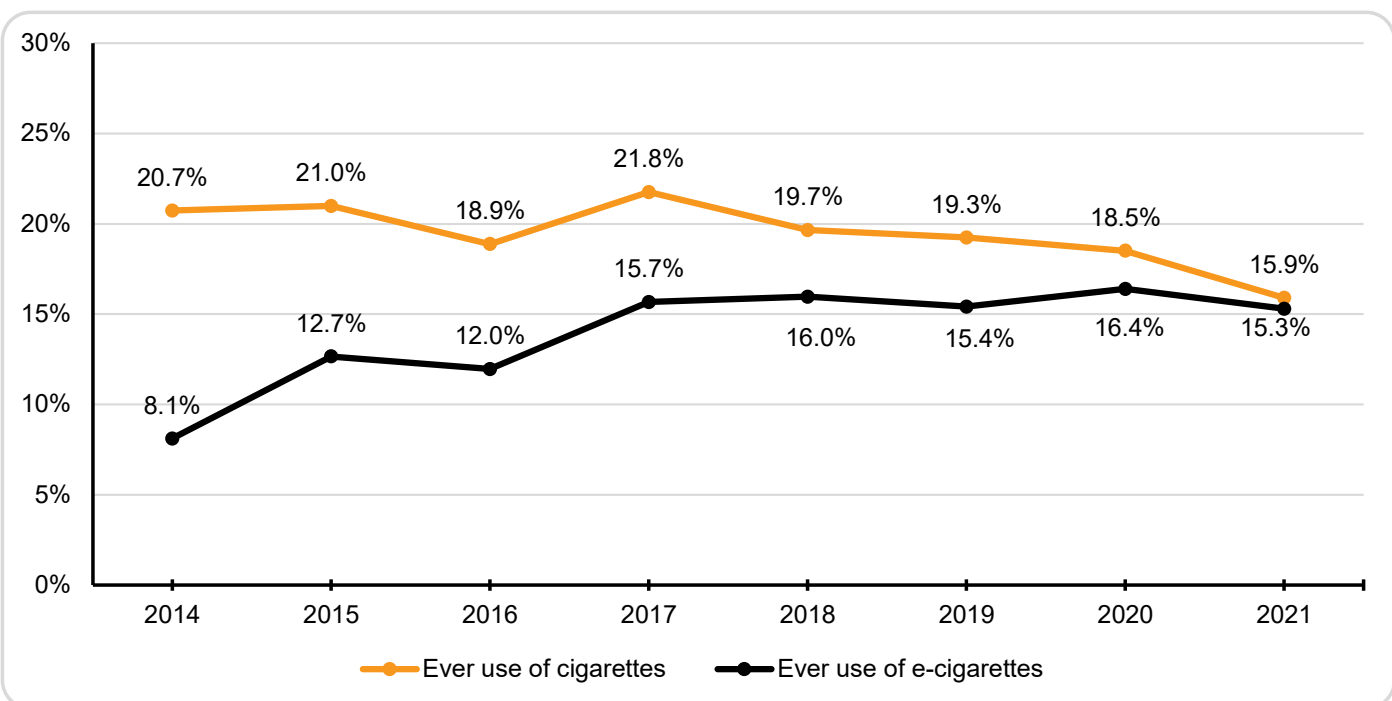
There is a declining group of smokers in the survey and in this year's survey the lowest rate of current smokers the survey has ever recorded (4.2%). If children are less likely to smoke but trial of e-cigarettes continues at its current level, then it will become more common for non-smoking children to have tried e-cigarettes. This trend must be monitored but overall having fewer child smokers is to be welcomed.

**Figure 4. Order of use between tobacco cigarettes and e-cigarettes, GB youth who had tried an e-cigarette (11-18), 2014-2021**



ASH Smokefree GB Youth Surveys, 2014-2021 Respondents who said they have tried an e-cigarette (Unweighted bases: 2014 = 157, 2015 = 301, 2016 = 318, 2017 = 425, 2018 = 402, 2019 = 466, 2020 = 484, 2021=344). Percentages have been rounded to the nearest decimal place.

**Figure 5. Ever use of cigarettes and e-cigarettes over time, GB youth (11-18), 2014-2021**



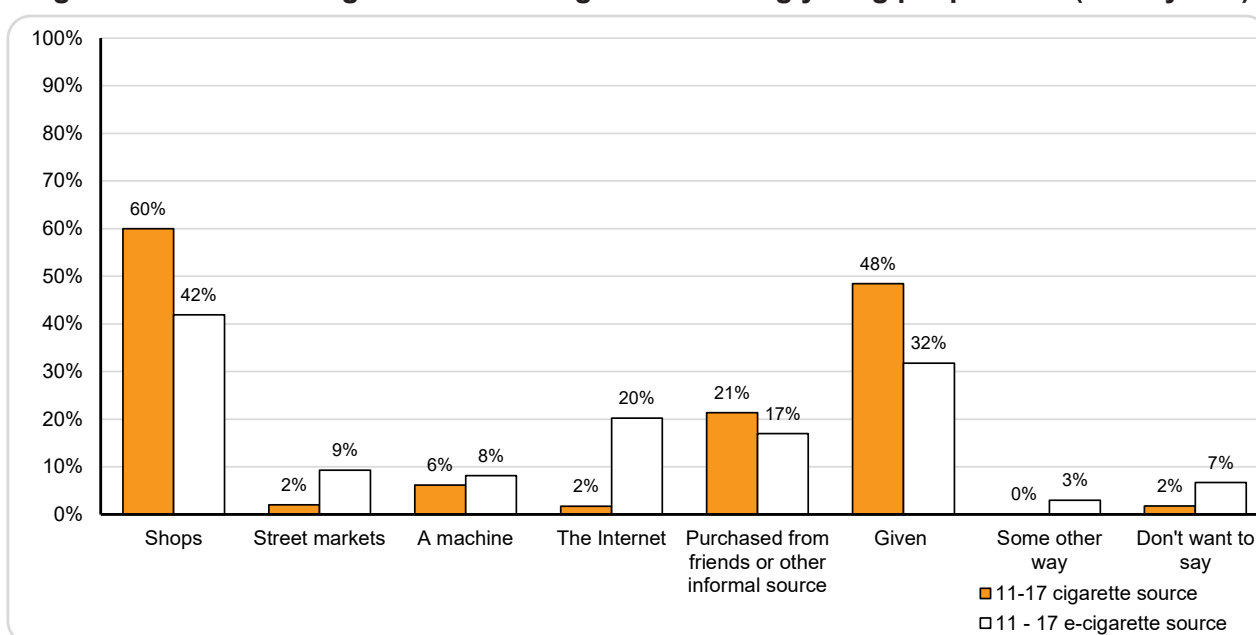
ASH Smokefree GB Youth Survey(s), 2014-2021. Unweighted base: All 11-18 year olds (2014 = 2,068, 2015 = 2,291, 2016 = 2,331, 2017 = 2,623, 2018 = 2,291, 2019 = 2523, 2020 = 2505, 2021=2513). Percentages have been rounded to the nearest decimal place.

## How underage users get hold of e-cigarettes and cigarettes

The sale of tobacco and e-cigarettes to people under the age of 18 is an offence, however most common way to access both cigarettes and e-cigarettes among 11-17 year olds was through shop purchase with 60% buying cigarettes and 42% buying e-cigarettes. The next most common source was being given them, (48% for cigarettes, 32% for e-cigarettes).

Online purchases of e-cigarettes (20%) are much more common than cigarettes (2%). Street markets were also a more common source of e-cigarettes with 9% reporting purchase compared to 2% for cigarettes. Being given both e-cigarettes and cigarettes was common among 11-17 year olds (48%-cigarettes, 32% e-cigarettes).

**Figure 6. Sources of cigarettes and e-cigarettes among young people 2021 (11-17 years)**



ASH Smokefree GB Youth Survey, 2021. Unweighted base: respondents (11-17) who currently use cigarettes: 76, respondents (11-17) who currently use e-cigarettes: 76. Percentages have been rounded to the decimal place. Respondents allowed to tick more than one box if more than one usual source.

## Packaging affects levels of interest in e-cigarettes

Images of different e-cigarette starter packs were shown to 11-18 year old respondents to our survey who were asked to tell us which packs they would be interested in trying. Respondents were randomly allocated either to packs with their usual brand imagery or packs with the brand imagery removed, but the brand name retained. The experiment sought to assess if young people were more likely to be interested in packs with brand imagery than those without.

Among those shown the standard branded packs 40% expressed a preference for one of the brands. Among those shown packs without brand imagery 32% expressed a preference – a statistically significant difference. Among the children who had never tried an e-cigarette the difference was slightly larger with 37% expressing a preference when shown the fully branded packs and 27% expressing a preference when shown the packs without brand imagery.

We showed the same packs to respondents in our survey of adult 18+. Among adults here was no statistically significant difference in the level of interest in trying e-cigarette starter packs whether they had brand imagery or not. 9% expressed a preference for a pack with full branding compared to 8% of those shown packs without brand imagery. Among current smokers there was also no statistically significant difference, although overall they were more likely to express an interest in trying any e-cigarettes whether the packs had brand imagery (31%) or not (27%). Smokers who had never vaped were less likely to express any preference for packs with brand imagery removed than smokers who had tried vaping (13% compared to 36%). However, again there was no statistically significant difference between packs with brand imagery (14%) and those without (12%).

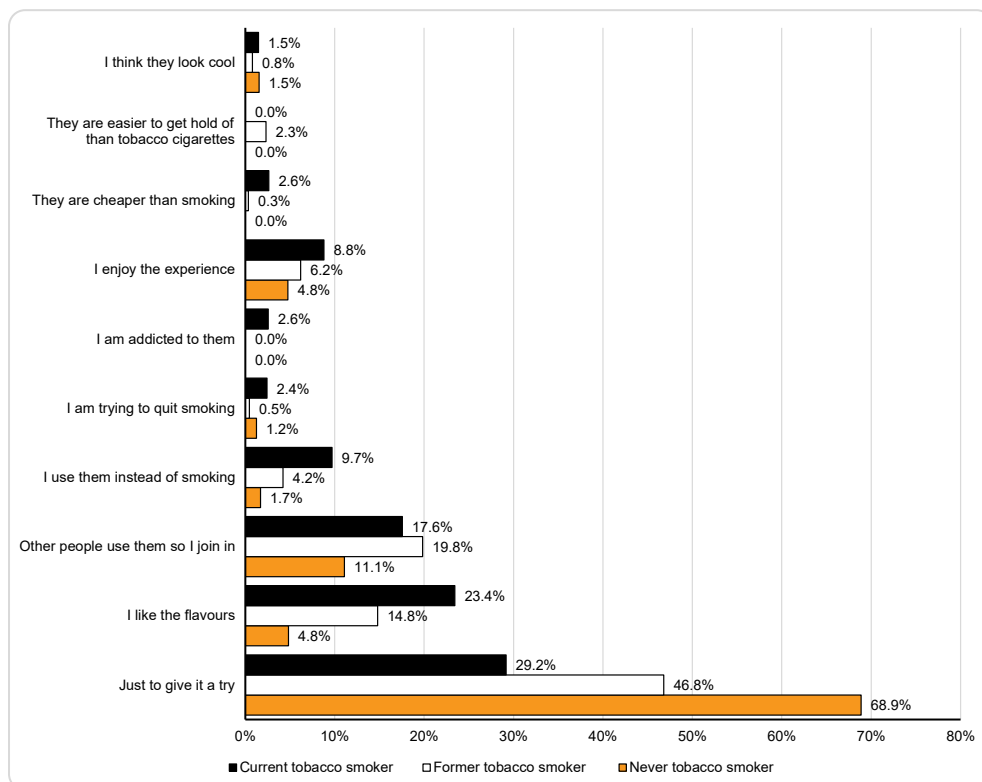
These findings suggest that removing brand imagery would have an impact in reducing the appeal of e-cigarettes to young people without compromising their appeal to adults.

## Reasons why 11-18 year olds experiment with, and use, e-cigarettes

Respondents who had ever used an e-cigarette (including current, ex-users and those who had tried them at least once) were asked what reason best described why they use or used an e-cigarette. The most frequent reason 11 to 18 year olds picked was 'Just to give it a try' (49.3%). The next most frequent response was 'other people use them so I join in' (16.7%). The third most common response was 'I like the flavours' (13.9%), although this was a less common answer among never smokers (4.8%). The least common reasons given for e-cigarette use were 'I am addicted to them' (0.6%) 'They are cheaper than smoking' (0.8%), 'They are easier to get hold of than tobacco cigarettes' (1.1%) and 'I think they look cool' (1.2%).

Among smokers who had tried e-cigarettes, reasons for e-cigarette use were more divided. The most common reason was still 'Just to give it a try', but only 29.2% gave this response. Other common reasons were 'I like the flavours' (23.4%), 'other people use them so I join in' (17.6%), 'I use them instead of smoking' (9.7%), 'I enjoy the experience' (8.8%) and 'I am trying to quit smoking' (2.4%) (Figure 7).

Figure 7. Reasons for e-cigarette use, GB youth (11-18), 2021

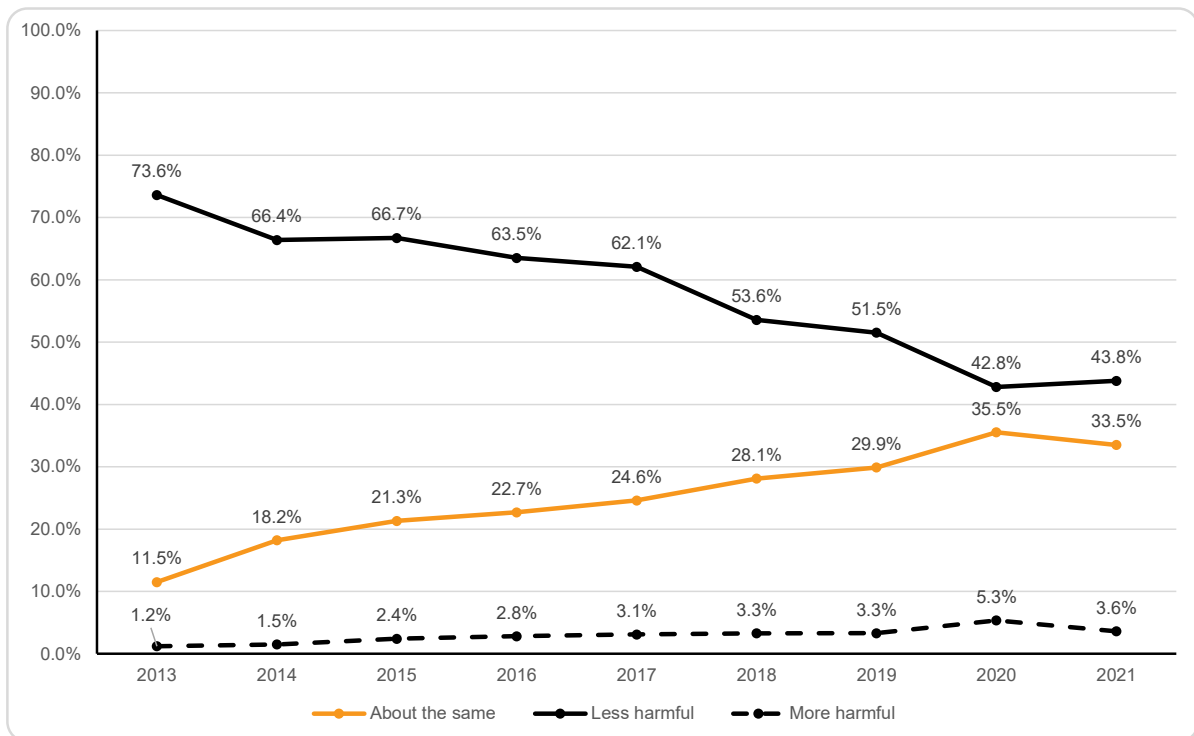


ASH Smokefree GB Youth Survey, 2021. Respondents that have tried e-cigarettes (Unweighted bases: Never smokers = 108, former smokers = 180, current smokers = 99). Percentages have been rounded to the nearest decimal place.

# An increasing proportion of 11-18 year olds incorrectly believe that e-cigarettes are as harmful as tobacco cigarettes

Since 2013 there has been a gradual fall in the number of young people who correctly identify vaping as being relatively less harmful than tobacco smoking. In 2015, 66.7% of young people correctly said that e-cigarettes were less harmful than smoking, falling to 43.8% in 2021. The proportion of young people incorrectly saying that e-cigarettes have ‘about the same’ level of harm as tobacco cigarettes has grown, from 21.3% in 2015 to 33.5% in 2021. (Figure 8)

**Figure 8. Perceptions of harm of e-cigarettes compared to smoking, GB youth (11-18), 2013-21**



ASH Smokefree GB Youth Survey(s). Unweighted base: All 11-18 year olds aware of e-cigarettes (2013 = 1,428, 2014 = 1,716, 2015 = 2,143, 2016 = 2,172, 2017 = 2,413, 2018 = 2,142, 2019 = 2,371, 2020 = 2,353, 2021=2,238)  
 Percentages have been rounded to the nearest decimal place.

## Types of products used

### E-LIQUIDS

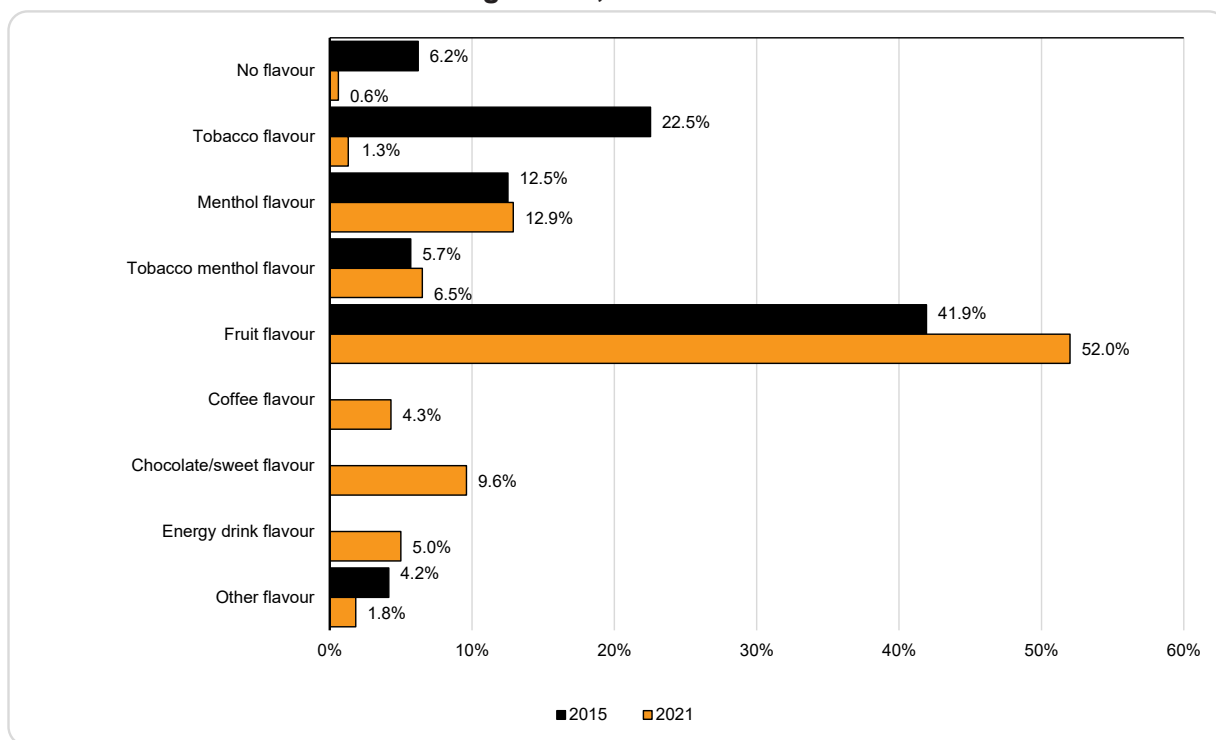
In 2021, 34.6% of 11-18 year olds said that the e-cigarette they used most often always contained nicotine this is a decrease from 42.1% in 2020; 36.9% said it sometimes contained nicotine; 19.1% that it never contained nicotine; with 9.3% saying they didn't know. This is a change from the previous year. In 2020 32.1% of 11-18 year olds reported their e-cigarette always contained nicotine.

The most frequently used e-cigarette flavouring for young people is ‘fruit flavour’ chosen by 52% of current e-cigarette users. The next most popular flavour is ‘menthol/mint flavour’, chosen by 12.9%. Several other flavours were more common in 2021 than in 2015, including ‘chocolate, desserts, sweet, or candy flavour’ (9.6%), ‘energy drink or soft drink’ (5%) and ‘An alcoholic drink flavour’ (1.2%). Tobacco flavour is less



popular now than in the past, with only 1.3% of young people who use e-cigarettes choosing this flavour in 2021 compared with 22.5% in 2015. (Figure 9)

**Figure 9. Most frequently chosen e-cigarette liquid flavour, current GB youth (11-18) users of e-cigarettes, 2015 and 2021**

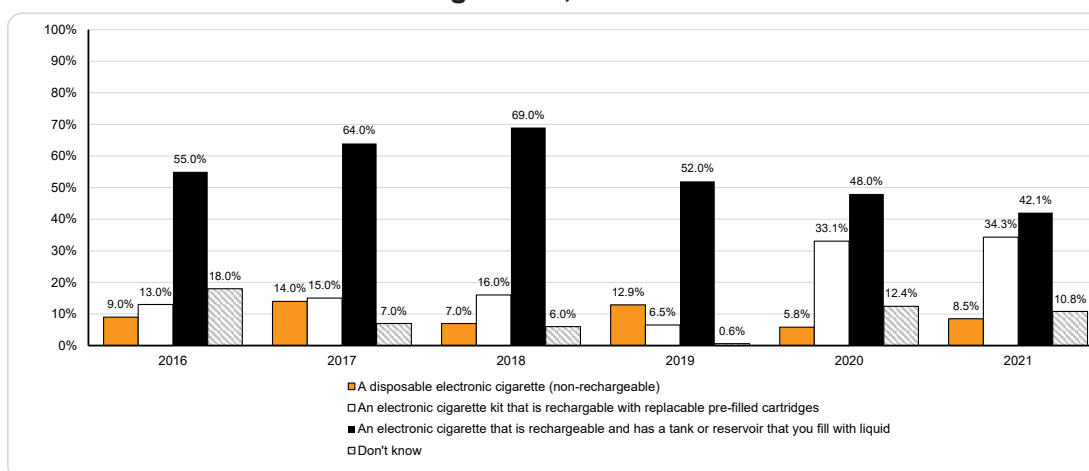


ASH Smokefree GB Youth Survey, 2021. Unweighted base: 11-18 year olds, respondents who are current users of e-cigarettes in 2021: 114; current users of e-cigarettes in 2015: 59. Percentages have been rounded to the nearest decimal place.

## DEVICES

The most popular type of e-cigarette amongst GB youth who currently use e-cigarettes are rechargeable devices with a tank which you can fill with liquid (42.1% of respondents). Although the sample sizes are small, the popularity of this type of device seems to have declined in popularity over the past 2 years. Rechargeable devices with replaceable pre-filled cartridges have increased in popularity, with 34.3% of respondents choosing this type in 2021 compared to 16% in 2018. (Figure 10)

**Figure 10. Most frequently used e-cigarette by device type, current GB youth (11-18) users of e-cigarettes, 2015-2021**



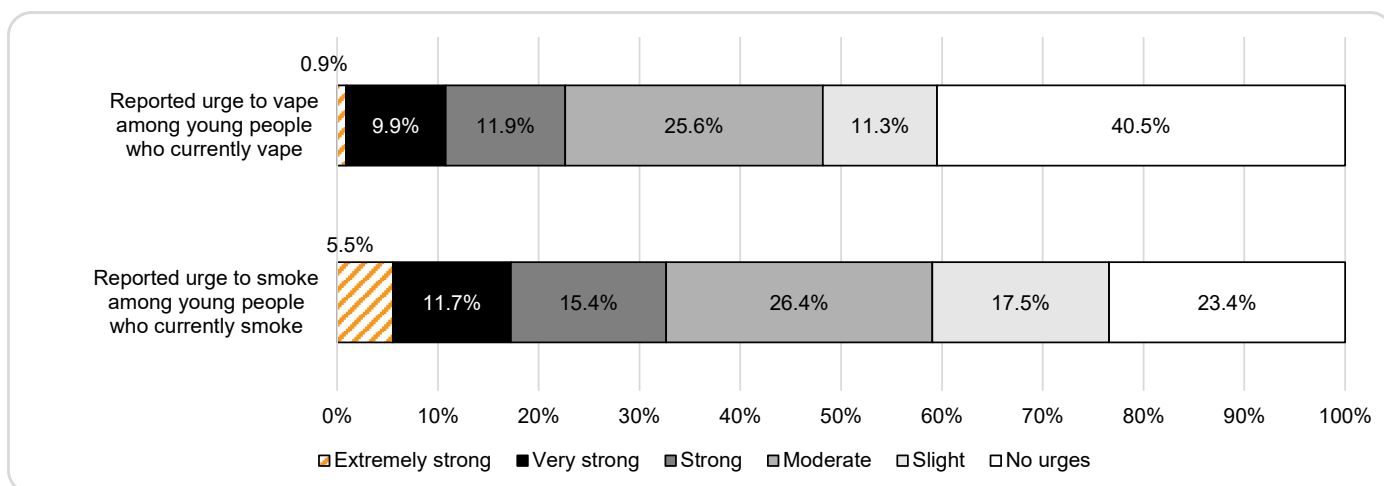
ASH Smokefree GB Youth Survey, 2020. Unweighted base: 11-18 year olds, respondents who are current users of e-cigarettes (2015 = 59, 2016 = 66, 2017 = 92, 2018 = 85, 2019 = 140, 2020 = 137, 2021 = 114) Percentages have been rounded to the nearest whole number.

## Urges to smoke compared with urges to use e-cigarettes

For the first time, in 2021 YouGov asked about the frequency and intensity of the urge to smoke and use e-cigarettes. In 2021 of e-cigarette users aged 11-18, 40.5% reported no urges to vape, while 26.4% of 11-18 year old smokers reported no urges to smoke. Young smokers were also more likely to report any type of strong urges to smoke (32.7%) than young vapers were to report strong urges to vape (22.6%) (Figure 11).

These questions are used to make assessments about the level of addiction an individual may have. While it is difficult to make a comparison between two different behaviours (smoking and vaping) in two different but overlapping populations (young current smokers and young current vapers), the results indicate that young vapers may have lower levels of addiction than young smokers. However, it may not be justified to draw strong conclusions.

**Figure 11. Reported urges to vape and smoke, GB youth (11-18) users of e-cigarettes and smokers, 2021**



ASH Smokefree GB Youth Survey, 2021. Unweighted base: 11-18 year olds, respondents who are current users of e-cigarettes 114; respondents who are current smokers 125

## Appendix 1: Background to ASH Smokefree GB Youth Survey

The ASH Smokefree GB Youth Survey is an online survey of 2513 children aged 11 to 18. Fieldwork was undertaken between 25th March - 16th April 2021. The survey was carried out online by YouGov and is commissioned by Action on Smoking and Health (ASH) and funded by a combination of the British Heart Foundation, Cancer Research UK and the Department of Health and Social Care. Results have been weighted and are representative of GB children aged 11 to 18. ASH survey covers 11-18 year olds, because we would not have been able to find sufficient e-cigarette use to analyse from the outset without including 18 year olds. The survey has been running since 2013, and includes questions on both tobacco and electronic cigarettes. This year's survey was carried out online in March 2021,<sup>2</sup> and relevant comparisons with previous years are covered in this briefing.<sup>2 3 4 5 6 7 8 9 10 14</sup> Analysis of the data has been completed with support from Public Health England, and the Nicotine Research Group at the National Addiction Centre, King's College London.

The results of the ASH Smokefree GB Youth Survey have been compared with other studies which have looked at youth use of e-cigarettes.

For further information about electronic cigarettes please see the [ASH Website](#) or download the [ASH Briefing on Electronic Cigarettes](#) or the [ASH Factsheet on use of electronic cigarettes among adults](#).

## Appendix 2: Context - regulatory framework and how it has evolved

In 2015 a minimum age of sale for e-cigarettes of 18 was introduced, making it illegal to sell e-cigarettes containing nicotine to under 18s or to purchase them on behalf of under 18s.<sup>11</sup> From 20th May 2016, a regulatory framework for e-cigarettes was introduced in the UK under the EU Tobacco Products Directive (TPD).<sup>12</sup> From that date, the advertising or promotion, directly or indirectly, of electronic cigarettes and re-fill containers on a number of media platforms, including on television, radio, newspapers and magazines, was prohibited. The only advertising still allowed is at point of sale and other local advertising such as billboards.

The new product rules under the TPD for electronic cigarettes introduced a notification process for manufacturers and importers in May 2016.<sup>13</sup> Non-compliant stock was allowed on sale for a further year until 20th May 2017.<sup>14</sup> See below for a summary of the key product standards:

### NICOTINE STRENGTH OF E-LIQUID

- Electronic cigarettes which contain up to 20 mg per ml of nicotine are regulated as consumer products.
- Products containing over 20mg per ml of nicotine cannot be sold unless they have a medicinal licence.<sup>15</sup>
- Zero nicotine products are not included in the TPD and do not require a medicinal licence.

### QUANTITY OF E-LIQUID

- Disposable electronic cigarettes, cartridges and tanks can contain a maximum of 2ml of e-liquid, while dedicated refill containers can contain up to 10ml.

## SAFETY

- Products must be child-resistant and tamper evident.

## HEALTH WARNINGS

- The pack must carry a health warning covering 30% of the surfaces of the unit packet and any outside packaging stating '*This product contains nicotine which is a highly addictive substance.*'

The Medicines and Healthcare products Regulatory Agency (MHRA) is the competent authority for the notification scheme for e-cigarettes and refill containers in the UK.<sup>16</sup> Consumers and healthcare professionals can report side effects and safety concerns with e-cigarettes or refill containers to the MHRA through the Yellow Card reporting system.<sup>17</sup> They can also report products suspected to be defective or non-compliant to their local Trading Standards service or to [TPDsafety@mhra.gov.uk](mailto:TPDsafety@mhra.gov.uk).

Since the Yellow Card Scheme was put in place for e-cigarettes on 20 May 2016, MHRA has received 231 Yellow Card adverse reaction reports.<sup>18 19</sup> MHRA assess all reports received in associated with nicotine-containing e-cigarettes and should any potential safety concerns be identified regulatory action would be taken and communicated as appropriate. The MHRA also receives reports of potential safety concerns and works with local Trading Standards teams to investigate as needed.

There is a legal requirement to review the regulations within five years of implementation and publish a report by 20 May 2021.<sup>20</sup> The Department for Health and Social Care carried out a post-implementation review consultation which closed in March 2021.<sup>21</sup> ASH has asked e-cigarette users questions about the type of product they use to inform our understanding of the impact of the current regulations and how the market for e-cigarettes is evolving.

## References

References last checked June 2021.

1. 2021 ASH Smokefree GB Youth Survey. Total sample size was 2,513 respondents. The online survey was undertaken between 25th March– 16th April 2021. The figures have been weighted and are representative of all GB children aged 11 to 18.
2. 2021 ASH Smokefree GB Youth Survey. Total sample size was 2,513 respondents. The online survey was undertaken between 25th March– 16th April 2021. The figures have been weighted and are representative of all GB children aged 11 to 18.
3. 2020 ASH Smokefree GB Youth Survey. Total sample size was 2,505 respondents. Fieldwork was undertaken between 11th March – 31st March 2020. The figures have been weighted and are representative of all GB children aged 11 to 18.
4. 2019 ASH Smokefree GB Youth Survey. Total sample size was 2,523 respondents. Fieldwork was undertaken between 12th March - 3rd April 2019. The figures have been weighted and are representative of all GB children aged 11 to 18.
5. 2018 ASH Smokefree GB Youth Survey. Total sample size was 2,291 British youths aged 11 – 18. Fieldwork was undertaken between 28th February and 17th March 2018. The figures have been weighted and are representative of all GB children aged 11 to 18.
6. 2017 ASH Smokefree GB Youth Survey. Total sample size was 2,331 British youths aged 11 – 18. Fieldwork was undertaken between 10th March and 5th April 2017. The figures have been weighted and are representative of all GB children aged 11 to 18.

7. 2016 ASH Smokefree GB Youth Survey, Total sample size was 2,623. British youths aged 11-18. Fieldwork was undertaken between 11th March and 10th April 2016. The figures have been weighted and are representative of all GB children aged 11 to 18.
8. 2015 ASH Smokefree GB Youth Survey, Total sample size was 2,291 British youths aged 11-18. Fieldwork was undertaken between 6th and 22nd March 2015. The figures have been weighted and are representative of all GB children aged 11 to 18.
9. 2014 ASH Smokefree GB Youth Survey, Total sample size was 2,068 British youths aged 11-18. Fieldwork was undertaken between 21st March and 1st April 2014. The figures have been weighted and are representative of all GB children aged 11 to 18.
10. 2013 ASH Smokefree GB Youth Survey, Total sample size was 2,178 British youths aged 11-18. Fieldwork was undertaken between 21st and 28th March 2013. The figures have been weighted and are representative of all GB children aged 11 to 18.
11. [The Nicotine Inhaling Products \(Age of Sale and Proxy Purchasing\) Regulations 2015](#)
12. [EU Tobacco Products Directive 2014/40/EU Article 20.](#)
13. Medicines and Healthcare products regulatory Agency. [E-cigarettes: regulations for consumer products.](#) 2019
14. [The Tobacco and Related Products Regulations 2016](#)
15. Medicines and Healthcare products regulatory agency. [Licensing procedure for electronic cigarettes as medicines.](#) 2017
16. [E-cigarettes: regulations for consumer products, 2016](#)
17. [Yellow Card](#), MHRA
18. McNeill, A., Brose, L.S., Calder, R., Simonavicius, E. and Robson, D. (2021). [Vaping in England: An evidence update including vaping for smoking cessation](#), February 2021: a report commissioned by Public Health England. London: Public Health England.
19. McNeill, A., Brose, L.S., Calder, R., Bauld, L., and Robson, D. (2020). [Vaping in England: an evidence update including mental health and pregnancy, March 2020: a report commissioned by Public Health England.](#) London: Public Health England.
20. [The Tobacco and Related Products Regulations 2016](#)
21. [Tobacco and related products legislation introduced between 2015 to 2016: reviewing effectiveness](#)

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