



Taking action on smoking and health

Young people and e-cigarettes in Scotland

Report on a survey of young people

ASH Scotland July 2014

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1.0 Aim

The objective of this survey was to obtain information on the awareness, and patterns of use, of electronic cigarettes (e-cigarettes) amongst young people aged 13 to 18 in Scotland.

2.0 Background

E-cigarettes are battery-powered devices that heat a liquid into a vapour, which is then inhaled by the user¹. They are not tobacco products and the liquid will often contain nicotine and flavourings mixed with a carrier liquid of propylene glycol or glycerine. At this time no e-cigarette device is registered as a medicine and so manufacturers and retailers should not make health claims for the devices.

Some e-cigarettes are smaller and 'cigarette-like'. Larger '2nd generation' e-cigarettes typically do not look like normal cigarettes, and have more powerful batteries and refillable liquid reservoirs.

ASH Scotland recognises the increasing focus on e-cigarettes and does not take a simplistic view either "for" or "against" them. We have produced a fully-referenced evidence briefing on e-cigarettes,² and presentations from a recent summit are available on the ASH Scotland website www.ashscotland.org.uk.

E-cigarettes have the potential to help some smokers, particularly older, long-term smokers, to quit and their use has grown rapidly amongst adult smokers in Great Britain³; from 3% in 2010 to 17% in 2014, but as yet there are limited studies exploring use amongst young people. There is also popular belief that they may pose a threat to the achievement of a smoke-free society, yet at the same time they provide an opportunity to reduce harm when addicted individuals switch from tobacco to a nicotine delivery device⁴.

As e-cigarettes are a fairly recent innovation, no longitudinal studies into the effects of prolonged use are available so we do not yet have reliable evidence on the long-term impacts of inhaling e-cigarette vapour. However, it is highly unlikely to carry the levels of harm we see with tobacco smoke. Worries they may aid the re-normalisation of smoking behaviour or act as a 'gateway' to regular tobacco use, following a rapid addiction to nicotine, provided the impetus for this study. Although the limited data on e-cigarette use among young people does not suggest a strong 'gateway to smoking' effect in the UK at present, research on the issue is sparse and there is apparent disagreement and confusion over what a 'gateway' effect would look like were it to exist. Many e-cigarettes use flavourings and sweeteners to make

them more palatable than conventional cigarettes and there are concerns that this could create a new route for initiation into smoking for young people. Researchers have recently highlighted the need for common standards and understanding in this area⁵.

E-cigarettes are popular for many reasons⁶: health – they are seen to be safer than tobacco cigarettes; cessation – many people use them to reduce the number of tobacco cigarettes they smoke; cost – they can be substantially cheaper than traditional smoking; addiction – there is a huge potential customer base of people addicted to nicotine; lifestyle – they are a novelty product, easy to access and to use; enjoyment – e-cigarettes come in a wide range of flavours and nicotine strengths; and smoking bans – for use in scenarios where smoking tobacco is prohibited.

With regard to young people, adolescence is a critical period of growth and development and exposure to nicotine may have lasting, adverse consequences on brain development⁷. In addition it is believed that addiction can start even a few weeks after initial 'experimentation' with smoking tobacco⁸, although we have not yet been able to study the impact of e-cigarettes.

Surveys suggest that e-cigarette use in Great Britain is negligible amongst those who do not smoke and that only 1% of young people who had never smoked had tried e-cigarettes once or twice and close to zero report continued use in 2013⁹. Nevertheless, health bodies are concerned by the similarities between relatively unregulated e-cigarette advertising and the marketing ploys previously used by tobacco companies to entice new smokers¹⁰. However, it is as yet unclear whether e-cigarette use leads to more young people taking up smoking of tobacco cigarettes, or the opposite¹¹. Existing surveys suggest regular use of electronic cigarettes amongst children and young people is rare and is confined almost entirely to those who smoke or have previously smoked, but there is little quality data¹².

To date e-cigarettes are only subject to general product regulation (the same as for kettles and toasters). However, the Scottish Government is expected to legislate to prohibit the sale of e-cigarettes to children under 18 or for an adult to buy e-cigarettes on their behalf (proxy purchasing).

The European Tobacco Products Directive, which will come into force in May 2016, will impose stronger controls on product quality and labelling, and prohibit many forms of advertising, including broadcast and print media. In addition, products above a certain nicotine concentration, or which make medicinal claims, will have to be registered as medicines, bringing a range of other quality controls and restrictions.

Currently there are no clear, agreed messages given to the public around e-cigarettes. On the one hand pharmacies promote and sell e-cigarettes alongside Nicotine Replacement Therapy (NRT), even though they are not regulated as medicines in the UK. Meanwhile groups such as the British Medical Association and Royal Environmental Health Institute of Scotland have expressed strong concerns over their use.

3.0 Methods

ASH Wales carried out a recent survey¹³ which we have used as a basis for this work.

A short online questionnaire using the Survey Monkey® web survey tool was developed consisting of 12 questions (see appendix). Logic formatting was added to direct respondents only to questions relevant to them on the basis of answers provided.

The survey was carefully distributed via our youth network partners to some schools, community youth groups/projects and other organisational members. We thus hoped to avoid the survey being 'hijacked' by tobacco industry or vaping community interests, who may have skewed the results. We offered 25 reward points in partnership with Young Scot for survey completion as an incentive, which young people could use to spend on rewards offered by Young Scot.

Descriptive analysis was conducted using SPSS and Survey Monkey® analytics and a series of cross tabulations were run to further break down results by variables of interest such as age group and smoking status. Percentages reported here may not always equal 100 due to rounding.

4.0 Findings

- Awareness of e-cigarettes is very high amongst 13-18 year olds in Scotland (81%).
- Use of e-cigarettes is not high and is largely restricted to smokers.
- The main ways young people are hearing about e-cigarettes are via promotional activity (stands, adverts) and from friends and family, and also from seeing them being used in public places.
- 48% of 13 to 14 year olds first saw them being used at school.

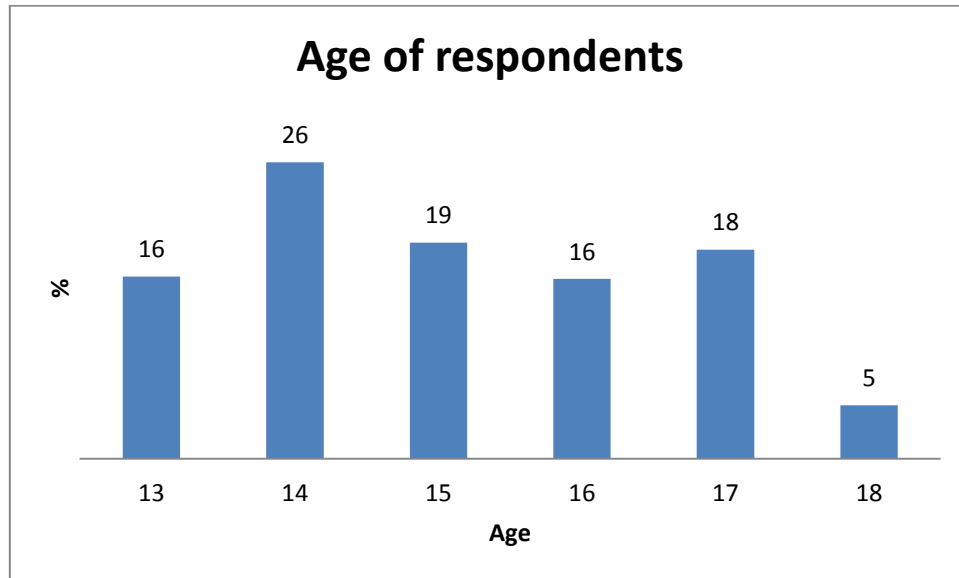
4.1 Number of responses received

Between the 21st January 2014 and the 1st April 2014 we received 752 responses to the online survey. For reporting purposes, and to be consistent with the recent ASH Wales survey into *Young People and the Use of E-cigarettes in Wales*,¹⁴ we excluded responses from individuals 12 and under and 19. The final sample size was 468.

4.2 Gender, age and location

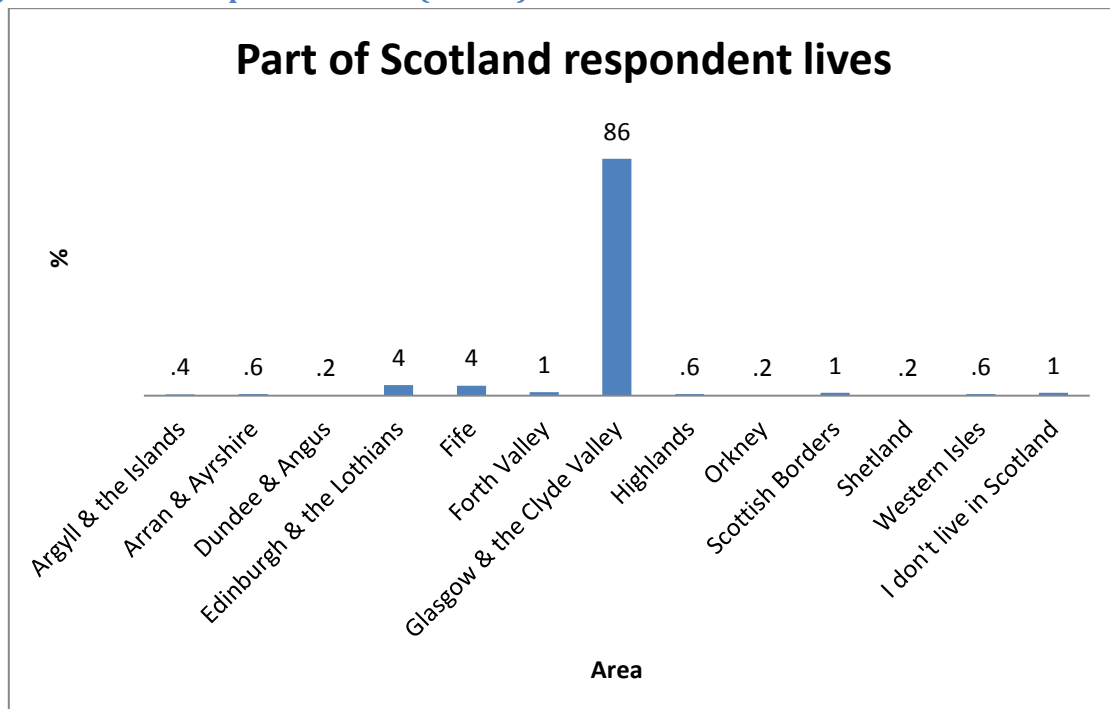
Respondents were asked to provide their gender, age and which area in Scotland they lived. No additional personally identifiable data was requested. 50% of the 462 who responded were male, 47% were female and 2% described their gender 'in another way'.

Figure 1: Age of respondents (n=468)



The highest proportion of respondents was aged 14 (26%) and the lowest aged 18 (5%). For the purpose of the analysis that follows, ages were grouped into 13 and 14 year olds, 15 and 16 year olds, and 17 and 18 year olds in order to create age categories with sufficient numbers of responses and to enable comparisons with the recent ASH Wales survey on e-cigarettes¹⁵ which used this method of categorisation.

Figure 2: Where respondents live (n=465)

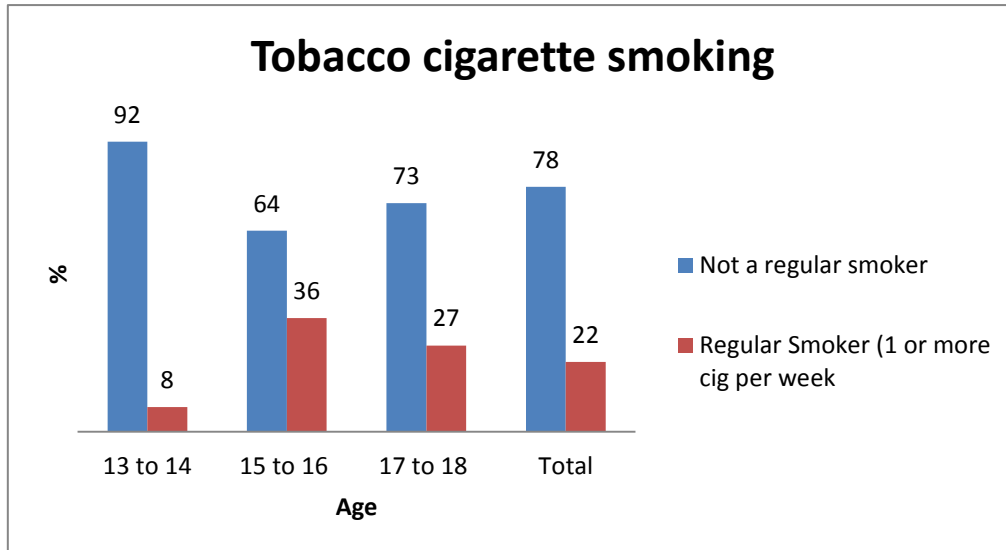


Although we tried to circulate the survey as widely as possible most responses were from Glasgow and the Clyde Valley area. It cannot simply be assumed that the results can be generalised to the whole population of young people in Scotland.

4.3 Tobacco cigarette smoking.

Following the convention used in the reporting of the Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS)¹⁶ conducted in 13 and 15 year olds 'regular smokers' were identified if they reported smoking one or more cigarettes per week.

Figure 3: Tobacco cigarette smoking (n=468)

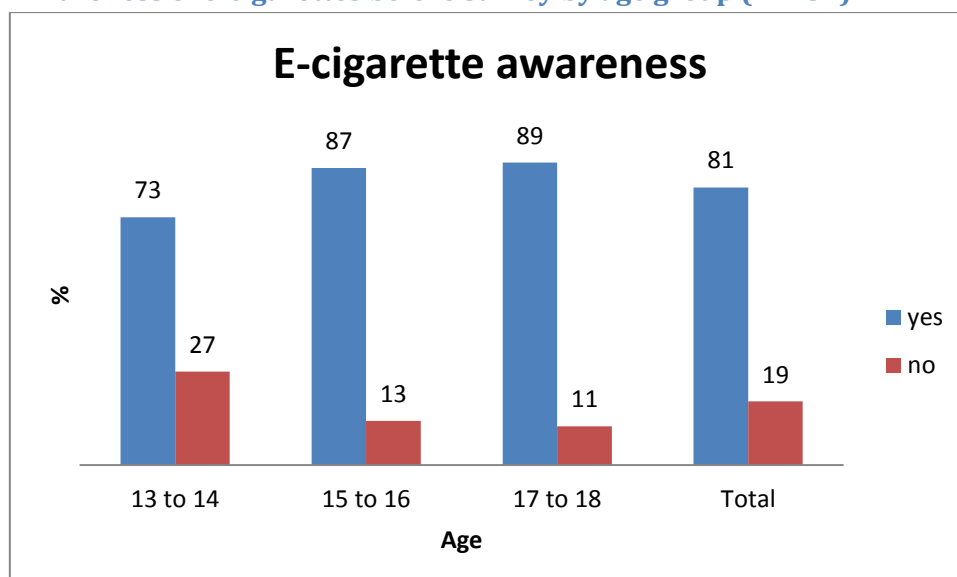


92% of 13-14 year olds described themselves as not being regular smokers with 8% being regular smokers. The highest proportion of regular smokers was in the 15 to 16 year age range (36%) with numbers decreasing again in 17 and 18 year olds to 27%. 78% of the young people sampled were not regular smokers.

4.4 Awareness of e-cigarettes before taking the survey

Respondents were asked if they had heard of e-cigarettes before taking the survey.

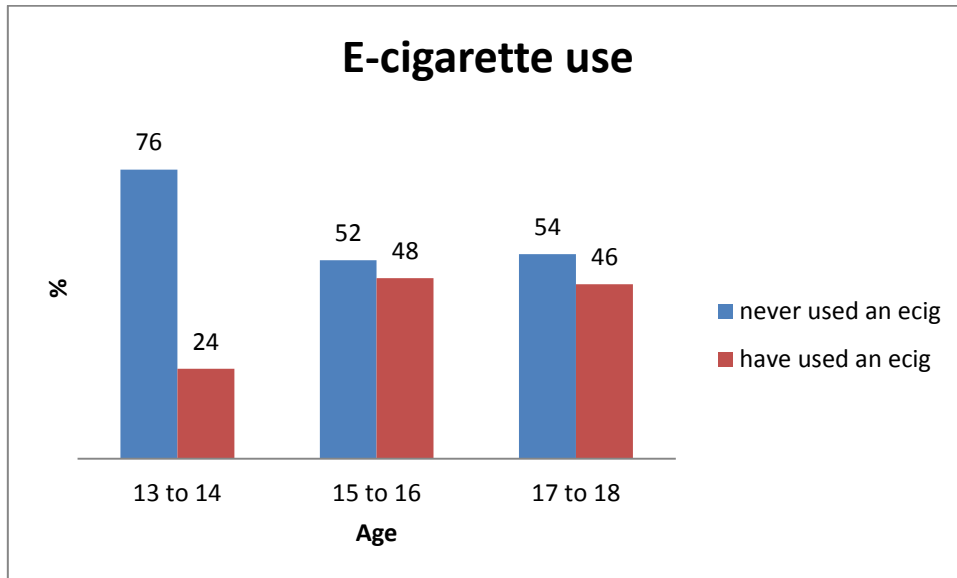
Figure 4: Awareness of e-cigarettes before survey by age group (n=451)



81% of respondents had heard of e-cigarettes before with a negligible higher percentage of 17 to 18 year olds (89%) having heard of them compared to 15 to 16 year olds (87%). 73% of 13 to 14 year olds had also heard of them.

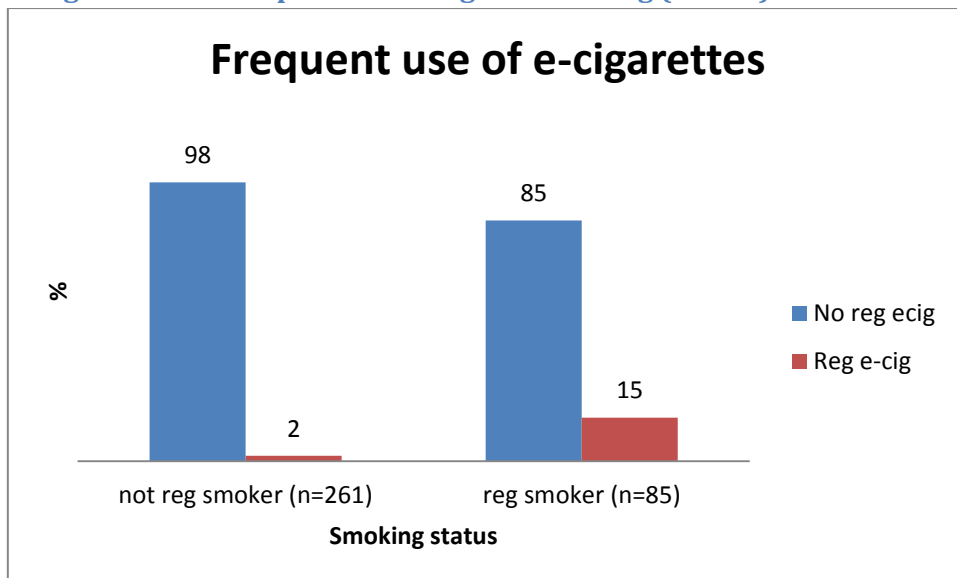
4.5 E-cigarette use

Figure 5: How individuals described their own e-cigarette usage (n=346)



24% of respondents aged 13 and 14 reported ever having used an e-cigarette. This rises to just under half of 15 to 18 year olds.

Figure 6: E-cigarette use compared with regular smoking (n=346)

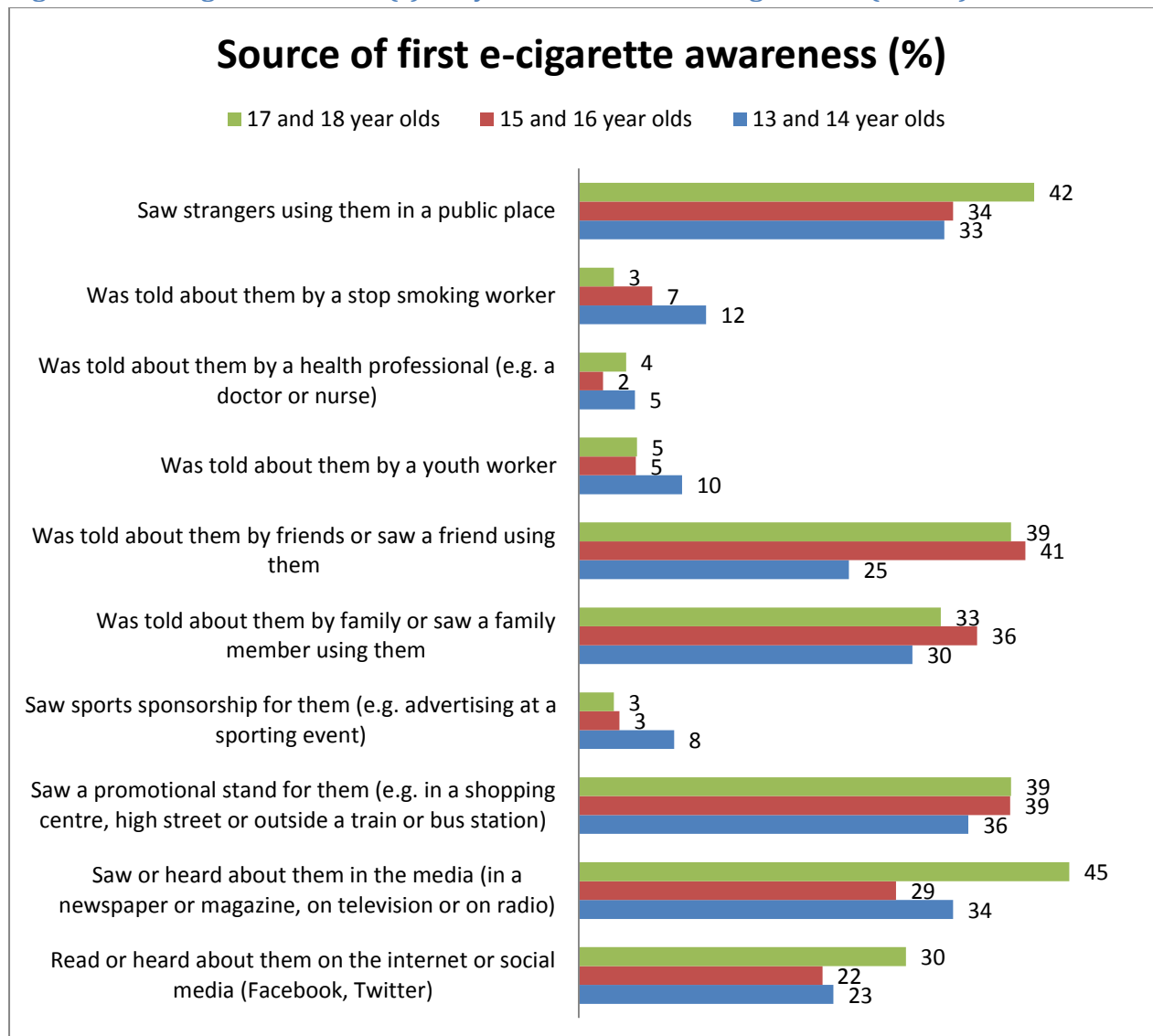


We asked frequent users of e-cigarettes (using them once or more a week) if they were regular smokers and found 2% of not regular smokers were regular e-cigarette users and 15% of regular smokers were regular e-cigarette users.

4.6 E-cigarette source

Respondents who were aware of e-cigarettes were asked where they first found out about e-cigarettes and asked to select as many options as applied from a list of sources.

Figure 7: Through what source(s) did you find out about e-cigarettes? (n=367)



Respondents were asked to identify the sources where they had first found out about e-cigarettes and asked to select as many that applied from 10 available options.

The highest proportion (45%) of 17-18 year olds read or heard about them in the media compared to 29% of 15 and 16 year olds, and 34% of 13 and 14 year olds, or saw strangers using them in a public place (42%) compared to 34% of 15 and 16 year olds and 33% of 13 and 14 year olds.

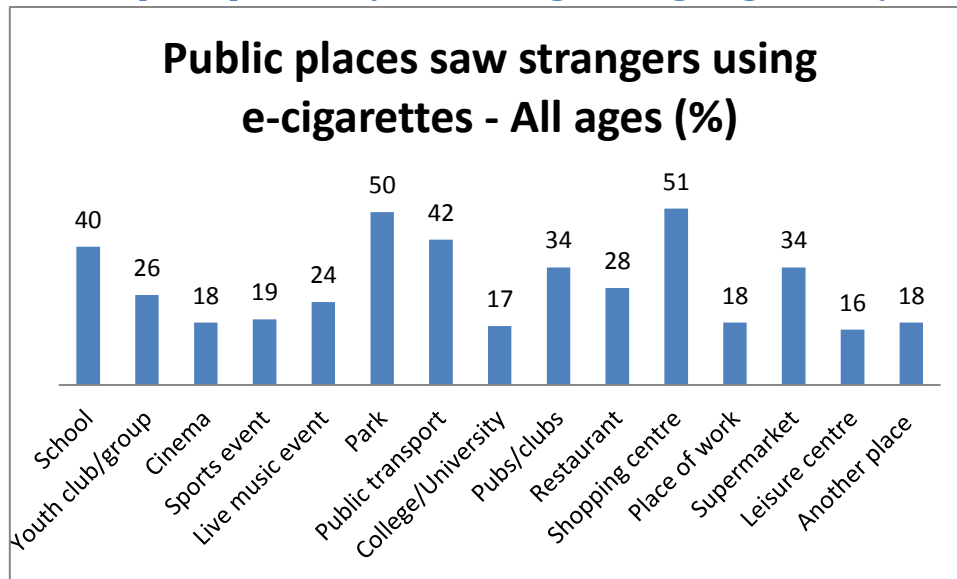
41% of 15 and 16 year olds were told about them by friends or saw a friend using them compared with 39% of 17 and 18 year olds and 25% of 13 and 14 year olds.

The highest single source (39%) 13 and 14 year olds saw or heard about them from was a promotional stand.

A higher percentage of 13 and 14 year olds were told about them by a stop smoking worker, youth worker or health professional than the other age groups.

If a respondent indicated they had seen a stranger using an e-cigarette in a public place they were asked to further identify where exactly. Those who didn't specify this option skipped this question.

Figure 8: In which public places did you see strangers using e-cigarettes? (n=131)



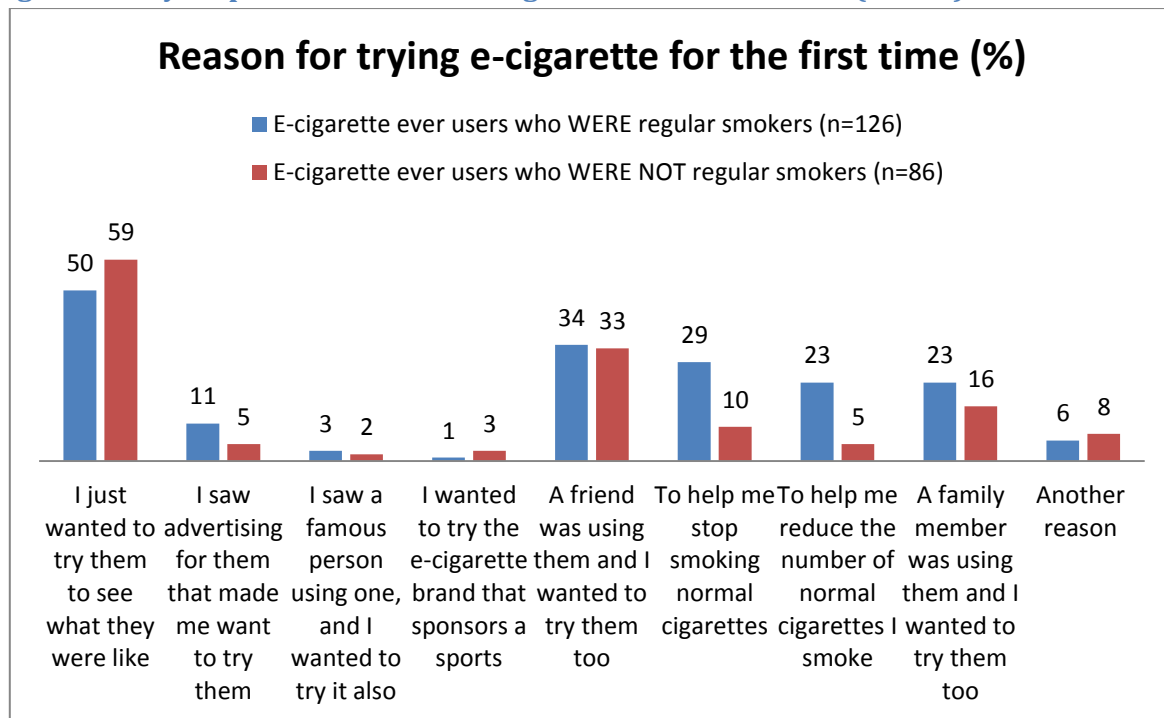
13 and 14 year olds had the highest prevalence of seeing strangers using e-cigarettes in a park (61%) compared to 44% of 15 and 16 year olds and 46% of 17 and 18 year olds. 54% of 17 and 18 year olds saw them used on public transport compared to 37% 13 to 16 year olds.

Around 50% of respondents in each age categories reported seeing strangers use e-cigarettes in a shopping centre.

The third most common place for 13 and 14 year olds seeing e-cigarettes used was school (48%) compared to 39% of 15 and 16 year olds and 31% of 17 and 18 year olds. E-cigarettes appear to be seen least when used by strangers at youth clubs or groups, leisure centres and college and universities.

4.7 Reason for trying an e-cigarette

Figure 9: Why respondents tried an e-cigarette for the first time (n=212).



The highest proportion (59%) of young people who were not regular smokers who had tried e-cigarettes reported they wanted to try them to see what they were like, and this was the largest single response. This is slightly higher than the percentage of regular smokers trying them for the same reason (50%).

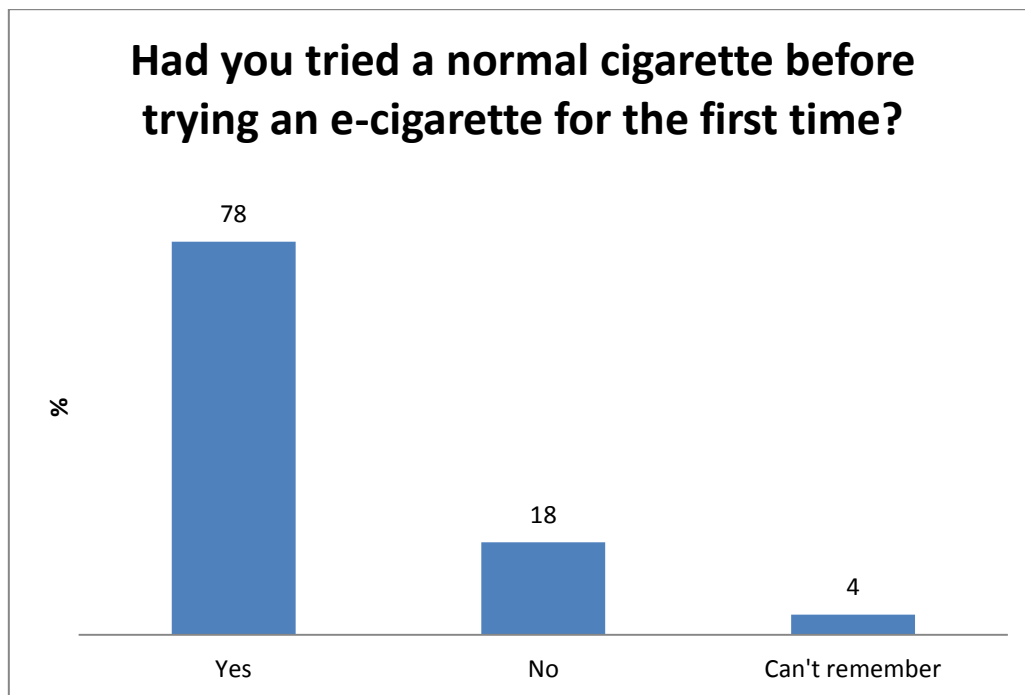
Similar prevalence of regular smokers and non-regular smokers wanting to try them after seeing a friend using them (34% and 33% respectively).

23% of regular smokers wanted to try them after seeing a family member using them compared to 16% of non-regular smokers.

Regular smokers more likely to respond that they wanted to try them to help them stop smoking normal cigarettes (29%) or try them to help reduce the number of normal cigarettes they smoked (23%) compared to non-regular smokers.

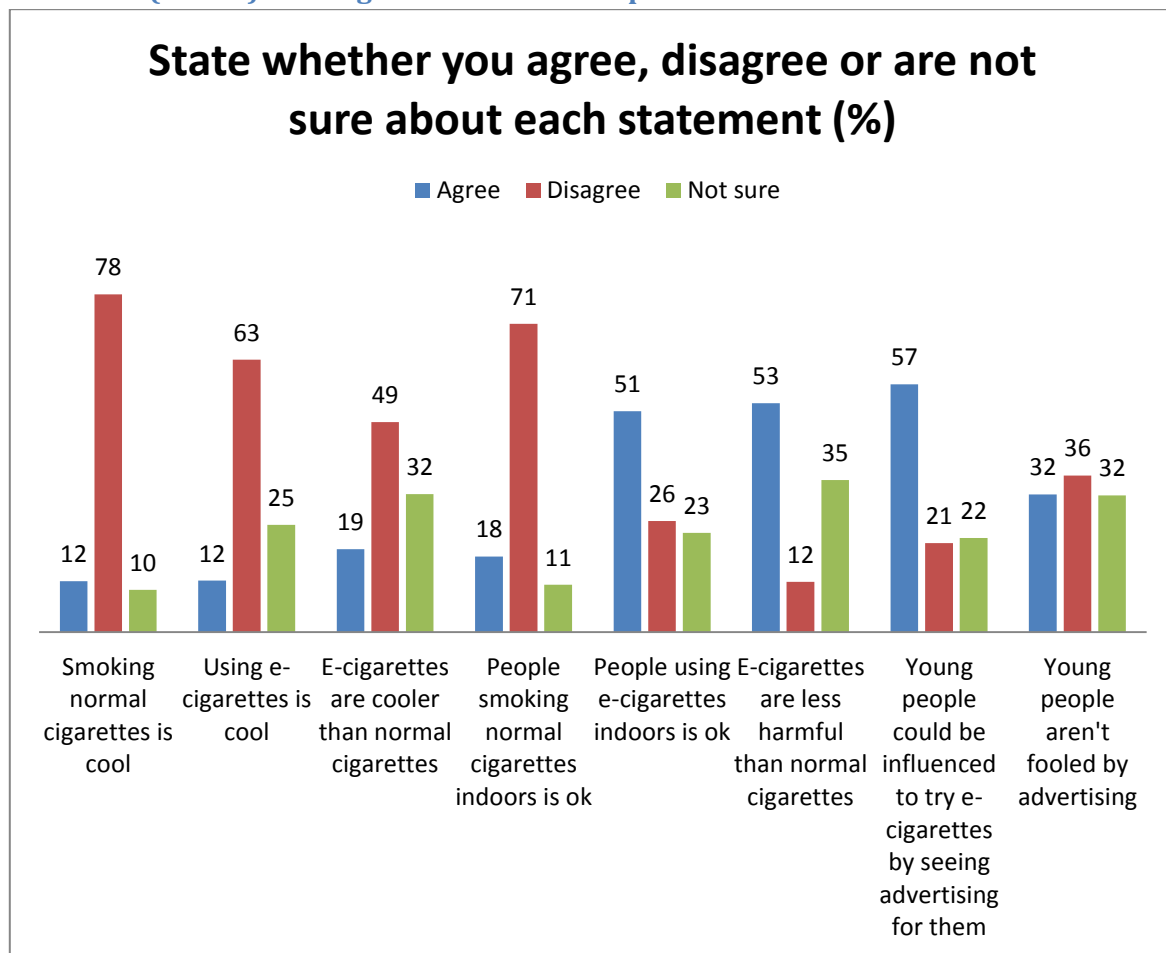
11% of regular smokers and 5% of non-regular smokers wanted to try them after seeing advertising for the products.

Figure 10: Had respondents who previously answered that they had tried an e-cigarette tried a normal cigarette before that? (n=126)



The majority of respondents (78%) had already tried a normal cigarette before trying an e-cigarette for the first time.

Figure 11: Did respondents agree or disagree or were they unsure about the following statements (n=513). This figure includes all responses.



The majority of all respondents (78%) disagreed that smoking normal cigarettes is cool and that people smoking normal cigarettes indoors is ok (71%). 63% of all respondents also disagreed that using e-cigarettes is cool. 57% of respondents agreed that young people could be influenced to try e-cigarettes by seeing advertising for them with an almost equal split of respondents stating they agreed, disagreed or weren't sure if young people were fooled by advertising (32%, 36% and 32% respectively). 53% of respondents believed e-cigarettes are less harmful than normal e-cigarettes.

5.0 Conclusion

The majority of young people in Scotland had heard of e-cigarettes while use remains fairly low (15% of regular smokers and 2% of non-regular smokers).

Awareness of e-cigarettes comes mainly from promotional activity including stands and media activity and seeing them used by other people including friends, family and strangers in public places.

Worryingly, nearly half (48%) of 13 and 14 year olds are seeing them being used at school. This, it could be argued, is why a ban on sales to under 18 year olds is a

crucial step so that 'vaping' behaviour is not normalised among young people in Scotland who would not usually be subjected to behaviour that mimics smoking.

Results showed that the largest proportion of respondents had seen some form of advertising for e-cigarettes; whether through promotion stands, media or social media, which may have affected and shaped their perceptions of e-cigarettes. This may continue to increase in the future as the market grows, especially if advertising remains relatively unregulated and appealing to young people. It is already concerning that the tobacco industry are re-inventing themselves through e-cigarette advertising and using marketing strategies that may attract new customers¹⁷. Interestingly a recent study¹⁸ published by the American Academy of Pediatrics has shown that the exposure of electronic cigarette advertising on television to young adults (ages 18-24) rose by 321% over a 2-year period, between 2011 and 2013.

The study also states that the exposure of young people (ages 12-17) to this advertising increased greatly, by 256% over the same period. This was the first time that the extent of exposure to e-cigarette television advertising has been studied.

We asked young people why they tried an e-cigarette for the first time and the majority stated reasons of curiosity. We did not ask if any felt they had been forced into trying one i.e. through peer pressure.

This echoes existing knowledge about the behaviour of young people, and current research¹⁹ does not provide strong evidence that e-cigarettes are a gateway into regular smoking.

There appeared to be some motivation in using e-cigarettes as a cessation aid to reduce the number of tobacco cigarettes smoked, but the benefits of this method are relatively unknown and the evidence on e-cigarette efficacy for smoking cessation comes only from studies in adults²⁰.

Although young people were mostly aware of e-cigarettes this does not seem to have translated in greater use amongst those who would never have tried tobacco cigarettes. This is reflected by the very small percentage of non-regular smokers who were frequent users of an e-cigarette.

Time will tell what part e-cigarettes and vaping devices will play in helping or hindering us in achieving the Scottish Government's target of a generation free from tobacco by 2034²¹. In the meantime, it is hoped that the potential benefits of these products (such as cessation aids) can be maximised, and any potential harms (such as introducing young people to nicotine) identified and minimised.

ASH Scotland's vision is of a healthier Scotland free from the harm and inequality caused by tobacco. If e-cigarettes can help tobacco users to cut down and quit, or switch from tobacco to 'vaping' that could be a lifesaver for them. Yet there are particular concerns with the growing involvement of tobacco companies in the market for these addictive devices, because of their history of prioritising profits over

people. Regulation should ensure that e-cigarette marketing is targeted at existing adult smokers rather than recruiting new young nicotine addicts.

5.1 Comparisons with Welsh survey

We also wanted to draw any comparisons with a recent Welsh survey of the same topic, as detailed below.

Similar proportions of 17 and 18 year old Welsh and Scottish respondents first saw e-cigarettes being used by strangers in a public place (43% and 42% respondents respectively) and 45% of Scottish respondents first saw/heard about them in the media (compared to 40% in Wales). In Scotland, 41% of 15 and 16 year old respondents first heard about e-cigarettes from a friend or saw a friend using one (compared to 36% of Welsh respondents of the same age group who first heard of e-cigarettes through friends/family). 36% of 13 and 14 year olds first saw/heard about e-cigarettes via a promotional stand.

Other results were similar in terms of the most common sources of finding out about e-cigarettes.

6.0 Limitations

This survey relied on a convenience sample of young people who were willing to take part in a short survey on e-cigarettes/smoking, which is likely to have introduced self-selecting response bias. This is evidenced by the observation that smoking prevalence in the sample obtained in this survey was higher than would be expected from representative population surveys such as the SALSUS. Hence it is likely participants in this survey were also more likely to be interested in, aware of, and/or use e-cigarettes than young people who did not take part in the survey, which should be considered when interpreting the results. In addition, young people can be apprehensive about sharing information about their smoking experiences. Since the survey was anonymous it is expected this would have limited influence on the results.

It is important to emphasise that this dataset does not necessarily provide a statistically robust or definitive representation of smoking behaviour and habits amongst all young people in Scotland. It does, however, provide a series of useful and interesting indicators on e-cigarette knowledge and usage that offers scope for further investigation, analysis and action.

Most responses (75%) were from young people in the Glasgow and Clyde Valley area therefore we cannot assume results are can be generalised for all young people in Scotland.

7.0 Future recommendations

In order to inform ongoing policy debate on e-cigarettes ASH Scotland recommends further research in this area, with a particular emphasis on monitoring how young people's knowledge and behaviours develop over time.

ASH Scotland would support including routine questions on e-cigarettes in representative surveys of young people in Scotland such as SALSUS. It would also be beneficial if there was more frequent questioning around e-cigarette use amongst young people.

These devices are almost certainly substantially safer than tobacco, but they cannot be said to be completely safe. Decisions on e-cigarette policies will continue to need careful consideration while we wait for better information.

8.0 References

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⁴ Scottish Tobacco Control Alliance. 2014. What should we do about e-cigarettes? Summit report. [Online] Available from: <http://www.ashscotland.org.uk/what-we-do/scottish-tobacco-control-alliance/stca-meetings-and-events/e-cigarette-summit-2014.aspx> (accessed 05/14).

⁵ ASH Scotland. 2014. Briefing on e-cigarettes. [Online] Available from: www.ashscotland.org.uk/what-we-do/supply-information-about-tobacco-and-health/briefings/ecigarettes.aspx (accessed 05/14).

⁶ Etter, JF. 2012. THE ELCTRONIC CIGARETTE: AN ALTERNATIVE TO TOBACCO? Great Britain. Amazon.

⁷ Surgeon General Report. 2014. The health consequences of smoking – 50 years of Progress. [Online] Available from: [www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:cdc/GEIa+\(CDC++Smoking+and+Tobacco+Use++Main+Feed\)](http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/index.htm?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed:cdc/GEIa+(CDC++Smoking+and+Tobacco+Use++Main+Feed)) (accessed 05/14).

⁸ U.S. Centers for Disease Control and Prevention (CDC), "Symptoms of Substance Dependence Associated with Use of Cigarettes, Alcohol, and Illicit Drugs—United States 1991-1992," *Morbidity and Mortality Weekly Report (MMWR)* 44(44):830-831,837-839, November 10, 1995, www.cdc.gov/mmwr/preview/mmwrhtml/00039501.htm. DiFranza, JR, et al., "Initial Symptoms of Nicotine Dependence in Adolescents," *Tobacco Control* 9:313-19, September 2000. Campaign for Tobacco-Free Kids (TFK) factsheet, *The Path to Smoking Addiction Starts at Very Young Ages*, www.tobaccofreekids.org/research/factsheets/pdf/0127.pdf.

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¹⁰ CRUK. 2009. Smoking and cancer – why do people smoke? [Online] Available from: www.cancerresearchuk.org/cancer-info/healthyliving/smokingandtobacco/whydopeoplesmoke/ (accessed 05/14).

¹¹ ASH Scotland. 2014. Briefing on e-cigarettes. [Online] Available from: www.ashscotland.org.uk/what-we-do/supply-information-about-tobacco-and-health/briefings/ecigarettes.aspx (accessed 05/14).

¹² Ibid

¹³ ASH Wales. 2014. Young People and e-cigarettes in Wales. [Online] Available from http://www.ashwales.org.uk/creo_files/upload/downloads/young_people_and_e-cigarettes_in_wales_final_march_2014.pdf (accessed 05/14).

¹⁴ Ibid

¹⁵ Ibid

¹⁶ SALSUS. 2010. [Online] Available from: www.drugmisuse.isdscotland.org/publications/abstracts/salsus.htm (accessed 05/14)

¹⁶ ASH Scotland. 2014. Briefing on e-cigarettes. [Online] Available from: www.ashscotland.org.uk/what-we-do/supply-information-about-tobacco-and-health/briefings/ecigarettes.aspx (accessed 05/14).

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¹⁹ ASH Scotland. 2014. Briefing on e-cigarettes. [Online] Available from: www.ashscotland.org.uk/what-we-do/supply-information-about-tobacco-and-health/briefings/ecigarettes.aspx (accessed 05/14).

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²¹ <http://www.scotland.gov.uk/Publications/2013/03/3766> (accessed 07/14).

Appendix 1

Young People and E-cigarettes/e-cigs: [survey questions](#)

Please visit our website at www.ashscotland.org.uk to see the survey questions or for further information.

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