The Independent British Vape Trade Association (IBVTA) welcomes the opportunity to provide written evidence to the House of Commons’ Science and Technology Select Committee inquiry into electronic cigarettes (vaping devices).

The IBVTA is the only association dedicated exclusively to the independent sector, and all IBVTA members are free from any ownership or control by the tobacco and pharmaceutical industries.

Based in the heart of Westminster, but with a nation-wide membership, the IBVTA is supported by a dedicated secretariat and a science and regulatory committee made up of engineers, chemists, toxicologists, and pharmacists.

The mission of the IBVTA is to provide credible knowledge and guidance to support the independent vape sector and promote constructive interaction between this industry sector and the scientific community, vapers, regulators, policy makers, and the general public. The IBVTA fosters research and manufacturing excellence, in order to deliver a robust yet proportionate consumer regulatory landscape that adequately reflects the needs of vaping stakeholders and recognises vaping as a sector in its own right.

We hope our written evidence will provide a substantive and positive contribution to your committee’s inquiry. Should you wish to discuss anything contained within our written evidence, please do not hesitate to contact us.
Health

Vaping prevalence in the United Kingdom

There are currently at least 2.9 million vapers in the UK of whom 1.5 million have given up smoking completely. That means that the average Westminster parliamentary constituency contains 4,462 people who vape. Figures from the Office for National Statistics (ONS) show that 99 per cent of UK vapers are adult current or former smokers.

As the number of vapers has increased, the number of smokers has decreased. In 2016, 15.8 per cent of adults in the UK smoked, down from 17.2 per cent in 2015, according to data from the ONS.

Vaping as a tool to help people stop smoking

Vaping is 60 per cent more effective in helping smokers to quit than conventional Nicotine Replacement Therapy (NRT) products, which have a recognised failure rate of around 90 per cent. In 2013 vaping replaced NRT products as the most popular tool for helping smokers give up, a fact recognised by Public Health England (PHE).

It was at this point that smoking rates in the UK seriously began to fall. As vaping has increased in popularity the smoking rate has continued to decline. Figures produced by PHE and the Scottish Health Survey show record low levels of smoking prevalence across the UK. In 2016, 15.8 per cent of adults in the UK smoked, down from 17.2 per cent in 2015, according to data from the ONS. According to Action on Smoking and Health (ASH), their most recent survey found the lowest recorded smoking rates among children ever: only 18 per cent of 11 to 15-year-olds had tried smoking in 2014 compared with 42 per cent in 2003. The UK now has the second lowest smoking rates in the EU.

According to NHS Digital’s Annual Smoking Cessation Report, the number of people accessing NHS Stop Smoking Services fell for the fifth consecutive year in 2016/17. Despite this decline smoking rates have continued to fall and are now at record low levels. The report added that, the “reduction in recent years may be partly due to the increased use of e-cigarettes which are widely available outside of these services.”

In further recognition of the leading role vaping is playing in helping smokers give up, this year’s Stoptober campaign not only openly embraced vaping for the first time, PHE also partnered with the IBVTA. As part of the campaign, PHE actively encouraged local Stop Smoking Services to form relationships with IBVTA members in

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4. Study carried out on 5,000 smokers, by Professor Robert West looking at the success rate of different methods to stop smoking: nicotine gum, nicotine patches, nothing, or e-cigarettes. Reported on BBC Breakfast 28 April 2014
5. Dr Jed Rose, Director of the Duke Centre for Smoking Cessation and a Professor in the Department of Psychiatry and Behavioural Sciences at Duke University Medical Centre, speaking at the Global Forum on Nicotine (Warsaw, Saturday 6th June 2015): http://gfn.net.co/downloads/2015/Plenary%202/Jed%20Rose.pdf
12. http://www.pulsetoday.co.uk/clinical/more-clinical-areas/smoking-cessation/nhs-smoking-cessation-services-see-continued-decline-in-patient-take-up/20035090.article
their area. Whilst more work needs to be done to encourage some services to embrace vaping, this is very encouraging progress that is actually delivering public health gains at the local level.

Robert West, Professor of Health Psychology and Director of Tobacco Studies at University College London’s Department of Epidemiology and Public Health points out, there is a link between a rise in vaping and a fall in tobacco sales. PHE state that vaping has contributed to the current record low levels of smoking in England and the recently updated Cochrane review confirmed that vaping helped smokers quit with no significant side effects. Further to this, a growing body of independent organisations are also publicly recognising the role vaping is playing in helping smokers switch to a significantly less harmful alternative. Dr Lynne Dawkins, Associate Professor at London South Bank University, recently co-authored a report on this subject for the British Psychological Society (BPS) which concluded:

“For smokers trying to quit, e-cigarettes are more attractive than traditional smoking cessation methods, such as nicotine replacement therapy, and at least as effective. There is also mounting evidence that they are much safer than tobacco smoking. As a consumer product, although most Stop Smoking Services are not currently able to supply these, we recommend that they endorse them and support there use by smokers trying to quit.”

Unlike traditional cessation methods, vaping is empowering. It represents a market-based, user driven, public health insurgency. That is why it is so successful. No taxpayers’ money has been spent, yet smokers are stopping, switching, and cutting down through the use of vape products. Every day IBVTA members are helping people switch from smoking to vaping. As Professor Riccardo Polosa, Director of the Institute for Internal and Emergency Medicine of the University of Catania in Italy, has said: “A very good vape shop employee can be better than a trained smoking cessation counsellor.”

It was therefore concerning to see the new Tobacco Control Plan for England referring to “medicinal regulation for e-cigarette products” and making vape products available on NHS prescription. Far from encouraging vaping the IBVTA is concerned that this would have the opposite effect.

The experience of IBVTA members across the UK, is that the smokers who do the best, in terms of cutting down or switching completely, are the smokers who take personal responsibility for their own start-up costs. They feel empowered because they have done it themselves and are therefore more likely to persevere with vaping.

Medicinal products or prescribing vape products on the NHS limits choice, making a smoker reliant on a specific brand or shop. Critically, prescriptions place the responsibility and power for someone switching into the hands of a GP or smoking cessation professional. This is hugely disempowering.

The IBVTA accepts, that in certain very specific and limited circumstances, such as a smoker being homeless or in receipt of benefits, it would be sensible for a local Stop Smoking Service to provide vouchers to cover the start-up costs of vaping.

Despite this good news, according to the latest figures provided by ASH, there are still 9.1 million smokers in the UK. That means in the average Westminster parliamentary constituency there are 14,000 people who smoke.

So why are more smokers not switching to vaping? This was an issue the IBVTA explored in a recent film made with the Royal Society of Public Health (RSPH).

Over 98 per cent of UK vapers vape as an alternative to combustible cigarettes. Between 1.5 and 2 million UK adults have used vape products to stop smoking entirely, potentially making up half of successful quit attempts since 2010. This has happened in an environment of very mixed messaging about relative safety, and the impact of vaping would have been far higher were it not for the statistics demonstrated by the graphs below. 23 per cent of surveyed smokers have not switched to vaping due to concerns they are not safe enough and 16 per cent would try vaping again if they were confident they were safe to use.

13 http://www.bbc.co.uk/news/health-37406105
14 http://www.bmj.com/content/354/bmj.i4993
16 https://twitter.com/Vapingit/status/931735950937468928
18 http://ash.org.uk/download/tag-smoking-statistics/
**Reasons for smokers not switching to vaping**

![Reasons for smokers not switching to vaping](image)

**What would prompt smokers to try vaping again?**

Adult population figures show that the UK populace have been seriously misled over the last four years. The correct answer is that vaping is a “lot less harmful”, yet 26 per cent of the UK population now erroneously believe vaping to be at least as harmful as smoking. 30 per cent of current smokers that have never tried vaping think it is just as bad as combustible cigarettes, and anyone that has ever smoked knows that this is probably excuse enough not to try to change their habit.
In the IBVTA’s view, there are three main causes for this misperception. Firstly, negative and inaccurate media coverage. Secondly, conflicting messages from domestic and international health bodies. Thirdly, the near total ban on the independent vape industry to promote accurately their products.

We know vaping is at least 95 per cent less harmful than smoking. Yet despite this, headlines like these regularly appear in the national media:
It is the opinion of the IBVTA that as a direct result of misinformation about vaping, including sensational and inaccurate press coverage or over interpreted studies, the public’s perception of the risks posed by vaping is being warped, deterring smokers from switching and sending some vapers back to smoking. This is not good news, and something that should be of concern to all those with a genuine interest in public health and choice.

It was therefore disappointing that the new Tobacco Control Plan for England did not contain measures to redress the misinformation about vaping. The IBVTA believe that if awareness around vaping was increased more smokers would choose to switch. That is why the recent Stoptober campaign was so very important.
As the IBVTA make clear in this written evidence, the overwhelming majority of public health bodies in the UK are openly supportive of vaping. However, until November of this year, the British Medical Association (BMA) was vocally sceptical with regard to vaping and would routinely provide people in the media to criticise vapers and vaping. At an international level, the World Health Organisation (WHO) remains hostile to vaping. For the record, the position taken by the WHO is extreme and is not supported by the growing body of credible and independent evidence. Last year, the WHO position on vaping was publicly criticised by amongst others: Professor John Britton (UK Centre for Tobacco and Alcohol Studies, University of Nottingham), Professor Ann McNeill (UK Centre for Tobacco and Alcohol Studies, King's College London), and Professor Linda Bauld (UK Centre for Tobacco and Alcohol Studies, University of Stirling)\(^21\). However, these mixed messages are confusing for vapers and the general public. It is therefore very welcome that the BMA has now revised its position on vaping.

Finally, the Tobacco and Related Products Regulations (TRPR) impose wide ranging advertising restrictions on the vape industry. The industry is in effect subjected to a tobacco style advertising ban. This leads people to ask, “if vaping is safe, why is the industry not allowed to advertise?”

There was never any logical justification for preventing independent vape businesses from accurately communicating the health benefits of vaping to smokers and existing vapers. As the evidence in support of the reduced harm associated with vaping has grown, there is clearly an overwhelming case for withdrawing such prohibitions, as the BPS made clear in their recent report\(^22\). Critically, the independent vape industry has demonstrated that it can be trusted to responsibly make verifiable health claims about their products and at the same time, already has the data to support such claims.

Additionally, in order to challenge misinformation and to promote the health benefits and reduced harm messages relating to vaping, public health organisations, the Government, and related bodies such as PHE need to be free to speak and campaign openly. The benefits of this are clear in that it will provide smokers and existing vapers with confidence when it comes to vaping and will lead to more smokers making the choice to switch to vaping.

**How harmful is vaping?**

There is never a situation where it is better to smoke than it is to vape. Figures from the ONS show that 99 per cent of UK vapers are adult current or former smokers\(^23\). Therefore, when assessing any harm associated with vaping, it is not how harmful vaping is in and of itself, but how harmful vaping is compared to smoking (cigarettes or heat not burn products).

In 2015, PHE and The Royal College of Physicians concluded that vaping was at least 95 per cent less harmful than smoking\(^24\). Vaping is also supported by The Royal College of General Practitioners\(^25\) and many other independent medical and public health bodies, including Cancer Research UK and the British Lung Foundation. In September of this year, more than 20 health bodies in Scotland signed a consensus on the benefits of vaping\(^26\).

Most recently, the BMA, longstanding sceptics with regard to vaping, published a new position paper\(^27\) entitled – E-cigarettes: Balancing risks and opportunities, which concluded:

\(^{26}\) [http://www.bbc.co.uk/news/uk-scotland-41333537](http://www.bbc.co.uk/news/uk-scotland-41333537)  
Recent research from the University of St Andrews, put the cancer risk from vaping at just one per cent compared to smoking. Similar research undertaken by Stabile and Buonanno put the cancer risk associated with vaping at more than 50,000-fold lower than smoking.

The IBVTA has presented an analysis of emissions data to a cross-party group of MPs and Peers, ASH, and officials from the Department of Health, the Medical and Healthcare Products Regulatory Agency (MHRA), Public Health England, and the European Commission (DG SANTE).

Emission data has been gathered from a wide variety of devices which encompass the vast majority of vape products available to the UK consumer. The estimate of PHE that vaping is at least 95 per cent less harmful than smoking is based upon two key facts. The first is that cigarette smoke constituents that are harmful to health are either absent in vapour or, if present, are mostly at levels much lower than five per cent of smoking doses; and second, the main chemicals present in vape products only, have not been associated with any serious risk. Analysis of the emission data commissioned by the IBVTA’s producer members indicates the level of toxicants relative to cigarette smoke to be less than one per cent. The IBVTA considers the PHE 95 per cent less harmful than smoking to be an overly conservative estimate for the majority of emissions detected, as the IBVTA has detected toxicants in e-vapour at less than one percent of the same toxicant detected in cigarette smoke emissions, which translated into a harm effect would suggest that e-vapour is 99 per cent safer than cigarette smoke. The IBVTA’s emission test data is discussed in more detail below.

More than 5,000 smoke constituents have been identified in cigarette smoke and at least 150 of these have been identified as smoke toxicants with biological activity. At least 98 components have an associated human inhalation risk with potential carcinogenic, cardiovascular, and respiratory effects, the three-main smoking-related causes of death. For specific carcinogenic toxicants, a list of 44 chemical constituents have been identified, known as the “Hoffmann Analytes”.

The IBVTA’s vaping emission test dataset has detected only three “Hoffmann analyte” carbonyl subset toxicants at very low or low levels, namely formaldehyde, acetaldehyde, and acrolein. The dataset covers a wide spectrum of vaping devices sold to the UK consumer by IBVTA members. It is important to note that of the three carbonyl emissions detected in the vapour, the quantity of the carbonyl analyte present is mainly dependent on the vaping device, whereas the composition of the e-liquid has a negligible carbonyl emission affect. This conclusion is supported by the hundreds of flavoured e-liquid emission tests which failed to detect or detected only trace amounts of formaldehyde, acetaldehyde, or acrolein in the vapour emission (performed by IBVTA producer members to comply with TRPR).

In collaboration with our UKAS accredited testing laboratory partners, the IBVTA’s Science and Regulatory Committee developed a vaping test regime based upon a modified Health Canada smoking regime which was designed to address the unique characteristics of e-vapour.

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28 http://tobaccocontrol.bmj.com/content/early/2017/08/04/tobaccocontrol-2017-053808?papetoc=
32 Dixon, M., Borgerding, M. F. (2008). Recent advances in the application and understanding of alternative smoking regimes. Recent Advances in Tobacco Science. 32: 3-84.
used as a benchmark for comparison with tobacco smoking. The vaping regime was established with extensive analytical method development and consideration of preliminary human topography data.

The emission data from 22 vaping devices was analysed, with each device operating at either a fixed power output or a variable power output recommended by the IBVTA producer member. The first graph below plots carbonyl emission against vaping device power output. The second graph illustrates the corresponding carbonyl emissions of selected cigarette brands and the Kentucky reference cigarette (1R4F) under comparable test conditions.

Of the emissions measured from 22 vaping devices, formaldehyde was detected at a maximum level of 5.82 µg per 20 puffs (14W low power device) and 9.3 µg per 20 puffs (46W high power device). As a comparison with smoking, the average number of puffs per cigarette is approximately 10, so the emission values detected can effectively be halved for vaping device vs tobacco cigarette comparison. Under similar test conditions, the reference cigarette 1R4F emission of formaldehyde measured 72.2 µg per cigarette. For the most popular type of low-medium power vaping devices on the UK market this equates to an approximate 96 per cent reduction in formaldehyde emissions between tobacco cigarettes and vaping devices. The IBVTA can make such a comparison for the other two carbonyl emissions detected at any level in the 22 vaping devices tested by IBVTA producer

(Note: IEVTA producer members most popular e-cigarettes products for the UK market typically operate at power levels between 7 and 25 Watts).

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34 Counts, M.E et al. Regulatory Toxicology and Pharmacology 41 (2005) 185-227
members. The maximum emission of acetaldehyde detected for any vaping device was 10.2 μg per 20 puffs (power 23 W). The reference cigarette 1R4F emission of acetaldehyde was measured at 1235 μg per cigarette. This equates to a 99.6 per cent reduction in acetaldehyde emission between tobacco cigarettes and vaping devices. Finally, the maximum emission of acrolein detected for any vaping device was 1.85 μg per 20 puffs (power 27 W). The reference cigarette 1R4F has a 124.9 μg per cigarette emission of acrolein. This equates to a 99.3 per cent reduction in acrolein emission between tobacco cigarettes and vaping devices. For the three carbonyl emissions detected, the overall reduction in emission between tobacco cigarettes and vaping devices is more than 98 per cent.

All other carbonyl subset “Hoffmann analytes” were not detected in the emissions of any vaping device, so the effective reduction in toxicant emissions, of remaining “Hoffmann analytes” between tobacco cigarettes and vaping devices is 100 per cent. Indeed, by the very nature of a vaping device, the vast majority of the “Hoffmann analytes”, or 98 toxicants connected to smoking-related diseases, cannot be present in the emissions vapour. IBVTA producer members have extensive device testing data for metal emissions (Hoffmann analyte subset of toxicants), as required by TRPR. None of the metal toxicants of concern were found in a range of vaping devices operating at different power settings.

The IBVTA also compared vaping device emission data with published early platform data for a heat not burn tobacco product and estimated relative levels of US FDA Harmful and Potentially Harmful Constituents (HPHCs). Whereas the relative amounts of tobacco toxicants appear to be significantly reduced for a heat not burn product (relative to traditional cigarette smoke), the toxicant emissions are still significantly higher than observed in vaping devices. For example, the acetaldehyde emission for the heat not burn tobacco product was estimated at greater than 200 μg per heat not burn stick compared with the maximum vaping device emission of 10.2 μg per 20 puffs (power 23 W). Despite the relative reduction in toxicants compared with tobacco cigarettes, heat not burn tobacco products still produce toxicant emissions which are not found in e-liquid vapour e.g. ammonia, tobacco-specific nitrosamines (TSNA’s), acrylamide, butyraldehyde, mercury, carbon monoxide etc.

To summarise, analysis of the IBVTA producer emission dataset indicates a greater than 99 per cent reduction in the levels of tobacco-related toxicants in the aerosol produced by vaping devices. The PHE estimate that vaping is around 95 per cent less harmful than smoking was based on the facts that cigarette smoke constituents that harm health are either absent in e-vapour or, if present, are mostly at levels much below five per cent of smoking doses, and that the main chemicals present in vaping only, have not been associated with any serious risk. Due to the absence of the vast majority of tobacco smoke toxicants in the vapour, and the relative overall reduction of the three observed carbonyl toxicants (formaldehyde, acetaldehyde, acrolein) by more than 98 per cent, we have estimated that vaping is at least 99 per cent less harmful than smoking under similar conditions.

One politician present at one of our presentations commented that the MHRA appear relatively relaxed about vaping devices and liquids, as they have good visibility of the contents of e-liquids and the emissions for devices. The legitimate independent vape industry agrees that despite some initial misgivings about the nature of testing and regulation, it does indeed provide very important data for the protection of public health, and a mechanism by which unsafe products can be removed from the market.

At the 2017 E-cigarette Summit, held at the Royal Society, Dr Konstantinos Farsalinos, Onassis Cardiac Surgery Greece, Department of Pharmacology, University of Patras, Greece, presented the results of his own analysis of the comparative risks of vaping compared to smoking and heat not burn. His conclusions matched those of the IBVTA – vaping being one per cent of the risk of combustible tobacco and ten times less harmful than heat not burn products. Dr Farsalinos also questioned some of the data presented by the tobacco industry with regard to the relative harm of heat not burn products.

Nicotine

Pure nicotine is a toxic substance and should be handled with care. The vast majority of e-liquid on the UK market is below 2.0 per cent nicotine strength. Warnings of serious toxicological incidents resulting from e-liquid exposure are unjustified and not supported by available studies. E-liquid has a low level of toxicity whether it is 18mg/ml or 36mg/ml.
The vast majority of e-liquids will contain pharmaceutical grade nicotine. It is MHRA and FDA approved and the same as that used in NRT products.

Nicotine is addictive when consumed via cigarette smoke. Scientific studies have indicated a link between certain classes of chemicals in the tobacco smoke matrix and their ability to reinforce the addictive properties of nicotine. However, as Professor Linda Bauld and others have made clear, nicotine when consumed in a form other than tobacco is not a particularly addictive substance. Professor Robert West said: “E-cigarettes are about as safe as you can get. We know about the health risks of nicotine. Nicotine is not what kills you when you smoke tobacco. Vaping is probably about as safe as drinking coffee.” Recently a number of bodies including ASH and the RSPH called for more to be done to ensure the public understand that nicotine is ‘not the deadly component in cigarettes.’

The National Institute for Health and Care Excellence (NICE) and the MHRA have ruled that long term use of nicotine is not detrimental to the health of the user. A ruling that was specifically sought to allow clinicians to prescribe nicotine containing products to pregnant women.

**Vaping and non-smokers**

One area, previously not covered by the large body of research into vaping was the effect of vaping on people who had never previously smoked. Only 0.01 per cent of vapers are never smokers. Therefore, virtually all vapers will have some degree of lung damage from their time as a smoker. This makes it very difficult to be truly accurately assess the impact of vaping on the body.

In November 2017, Professor Riccardo Polosa published the results of his long-term study into the effects of daily vaping on people who had never previously smoked. For the first time, there is now a study in this area. The result? No negative impact on the lungs over a period of several years.

Speaking about his research, Professor Polosa said:

“The respiratory system is the primary target of any potential harmful effects of chronic exposure. Therefore, any search for early health changes from long term EC use would be more logical in the lungs than in the cardiovascular system. That is why we emphasised conclusions about lungs. In any case, not a single vapor had negative effects on blood pressure or heart rate throughout the study.

Data from cohorts of smokers with chronic respiratory diseases (including asthma and COPD) switching to ECs indicate that substitution of conventional cigarettes with ECs is unlikely to raise significant health concerns and appears to suggest clinical benefits.

Studies with smokers with pre-existing respiratory disease switching to ECs is a good clinical model to prove harm reversal, but do not provide any information about the potential for absolute risk from vaping, because of the existing background damage from previous smoking.

The strength of our study was to investigate the effect of vaping on lung health in regular EC users who have never smoked in their life. Given that EC aerosol emissions are much less harmful than tobacco smoke, it is no brainer that vaping is substantially better for the lungs than smoking.”

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41 http://www.scottishparliament.tv/category.aspx?id=19&page=1&sort=date

42 The Guardian newspaper 05 June 2013

43 http://www.ash.org.uk/ash-supports-calls-for-more-to-be-done-on-public-understanding-of-nicotine


45 http://www.nice.org.uk/guidance/ph45

46 http://www.nature.com/articles/s41598-017-14043-2.epdf?author_access_token=l8t_CFXFba_IW0vKFYUdRgN0jAjWeilesR3ZaTv0NMAWe6i4ZbzbtpwF6FYJvlc1hjXUjIKOVlCiChaYgQ3Rjmmw\ dRwporGc5kOEigtOq7FZVz0uifasP_zrVHRZKBv_yH10eD10kZoab0Q%3D%3D

Vaping, young people, and the gateway theory

The key issue in all of this is not how many children try vaping, but how many vape regularly and how many having tried vaping, go on to smoking (often referred to as the ‘gateway effect’).

Research produced by the ONS makes clear that 99 per cent of vapers are current or former adult smokers.\textsuperscript{48} Research produced by ASH\textsuperscript{49} demonstrated that children are not vaping in significant numbers. Their survey found that regular use of vape products amongst children and young people is rare and is confined almost entirely to those who currently or have previously smoked.\textsuperscript{50} Research undertaken by Queen Mary University in London\textsuperscript{51} found no evidence that a child trying vaping for the first time goes on to become a regular vaper, but a child trying a cigarette for the first time has a 63 per cent chance of becoming a regular smoker.\textsuperscript{52} Of those young people that do vape, the majority use nicotine free products.\textsuperscript{53}

Welsh Assembly Government funded research from Cardiff University concluded: “Vape products are popular with teens, including those who have never smoked, but few of those who try them become regular users, with most of those who do so also being smokers.”\textsuperscript{54}

Cancer Research UK looked in detail at two major studies into vaping amongst young people in Wales, they concluded: “Looking specifically at two studies dedicated the use of vaping devices amongst young people in Wales only a minority of teenagers who try vaping go on to become regular users. And the majority of those who do use the devices regularly were already smokers.”\textsuperscript{55}

Furthermore, there is no evidence of vaping acting as a gateway to smoking. If there were, smoking rates would be rising as vaping has become more popular, instead smoking rates are at their lowest levels, including amongst children. According to ASH, the most recent survey found the lowest recorded smoking rates among children ever: only 18 per cent of 11 to 15-year-olds had tried smoking in 2014 compared with 42 per cent in 2003.\textsuperscript{56} In addition to this, new research from the Centre for Substance Use Research concluded that there was no evidence of a gateway effect from vaping, and furthermore, that vaping may actually contribute to the de-normalization of smoking and thus further discourage tobacco use.\textsuperscript{57}

Sales and proxy purchases of vape products to/for those under the age of 18 is against the law in England, Wales and Scotland and may soon be illegal in Northern Ireland.

Far from being a gateway into smoking, vaping is increasingly being recognised as a gateway out of smoking for growing numbers of smokers.

Regulation

Vaping in the UK is heavily regulated, and in some instances vaping is more heavily regulated than some tobacco products. The primary regulation for vape products in the UK is the TRPR – the UK’s implementation of the EU Tobacco Products Directive (TPD). These regulations, in summary, impose the following restrictions:

- Nicotine containing e-liquid can only be sold in bottle volumes no larger than 10ml,
- Tanks on vaping devices are restricted to a maximum refill capacity of 2ml,
- All nicotine containing e-liquids and devices capable of vaporising such e-liquids to have been tested and notified to the MHRA,
- All vape products to be sold with the following warning, even if they do not contain nicotine when sold: “The product contains nicotine which is a highly addictive substance.”
- Nicotine strength is restricted to a maximum of 20mg/ml, and
- There are severe restrictions on the advertising of vape products.
As a responsible trade association, the IBVTA and its members are not opposed to regulation. Some aspects of the TRPR, namely the testing and notification of e-liquids are sensible. However, restrictions on bottle and tank sizes, restrictions on nicotine strengths, and advertising bans, far from making vaping more attractive to smokers or even less harmful compared to smoking, instead make vaping less attractive, more expensive, and will have no impact on the limited risk associated with vaping.

Prior to the introduction of the TPD, there was a functioning single market for vape products within the EU; it was working well. One of the main arguments used by proponents of the TPD was that it would bring a uniform approach to the regulation of vape products across the EU and therefore further enhance this single market.

In reality this has proven not to be the case, and rather than one regulatory regime, there are now 28 different regimes as no two Member States have implemented the TPD in the same way. As an example, tanks above 2ml in size are banned in the UK and the Netherlands, but can be sold in France and Germany. Worryingly, some Member States have used the TPD as an excuse to clamp down on vaping. Countries such as Denmark have set their notification fees at such a high level so as to effectively ban outside countries selling into their domestic market. Other countries such as Belgium have simply banned cross border sales of vape products.

Currently, vape products are disproportionately regulated and this prevents the full potential of vaping being reached. As Professor John Britton from the Royal College of Physicians made clear: “There are about nine million people in the UK who are addicted to nicotine, and at moment, our regulatory system continues to encourage them to use the most dangerous product (tobacco) to feed that addiction.” Brexit offers an opportunity to review the current regulations and to introduce a risk-based, proportionate, and vape specific regulatory regime in the UK. It is therefore welcome that the new Tobacco Control Plan for England commits the Government to reviewing the TRPR once the UK has left the EU.

There is a thriving independent vape industry in the UK providing consumers with a wide range of quality vape products. According to one recent study, vaping is now the fastest growing industry in the UK58 and, after the United States, the UK is the second largest market for vape products in the world. At a local level, vape shops are one of the few areas of positive growth on our high streets59.

The UK’s independent vape industry has a global reputation for quality and innovation. Combine this with the enlightened approach many in the public health field have taken towards vaping and the positive attitudes within PHE, the MHRA, and the Department of Health, then the UK really does have the potential to become a global leader in vaping; both in terms of shaping the global policy environment, and also in terms of generating exports and boosting the UK economy.

This tremendous opportunity will only be realised if the regulatory and fiscal environment in which the industry operates is proportionate. In order for this to be achieved we need a Brexit deal that will allow vaping to achieve its full potential. Specifically, when negotiating the UK’s withdrawal from the EU, the Government must not agree to any deal where the UK is still bound by EU tobacco control policy, including the TPD and the EU’s tobacco excise regime.

What impact have these regulations had on the independent vape industry?

As credible, responsible, and law-abiding businesses, IBVTA members have worked hard to ensure that they comply with the TRPR. This has included the preparation of notifications for non-compliant products that had to be sold through by May 2017, imposing costs in R&D, production of product prior to November 2016, selling off non-compliant stock at cost or a loss, and of course MHRA costs per notification. It must be noted that some companies have been entirely (and often wilfully) ignorant and unprepared for their responsibilities under new regulations.

IBVTA members have worked constructively with regulators to help make a difficult, ill-conceived, and counterproductive piece of EU legislation vaguely palatable and we acknowledge the constructive attitude taken by the Department of Health and the MHRA. However, if the responsible industry is to retain confidence in the TRPR going forward, regulations need to be enforced.

Unfortunately, a significant number of businesses are still choosing not to comply with these regulations. This would not be so much of a problem if the MHRA enforced deadlines and Trading Standards ensured that all

58 http://www.talk-business.co.uk/2016/04/12/can-e-cigs-continue-fastest-growing-industry-uk/
businesses in their local area were complaint. Sadly, this is not the case. The MHRA has been overly lenient with
companies who should have supplied them with notifications a year ago. At the same time far too many local
trading standards officers are making no attempt to enforce these regulations. As a direct consequence of this
leniency and inaction, reputable businesses are suffering, with IBVTA members sales down an average of 24 per
cent since May. This is totally unacceptable.

If "doing the right thing" is not to become a disincentive, as well as a competitive disadvantage, it is vital that these
regulations are enforced.

In order to gain an accurate picture of what effect the TRPR has had on the independent vape industry the IBVTA
has surveyed all members. Additionally, to gain an accurate picture of compliancy with and enforcement of the
regulations, the IBVTA sent freedom of information requests to every local authority in the UK with a Trading
Standards authority. The results of both should be of real concern to anyone with an interest in regulatory
compliance, consumer safety, and public health.

- Trading Standards have only actioned just over half of reports received nationally from businesses and
  consumers regarding non-compliant vaping products.
- Only 36.8 per cent of local authorities surveyed have actioned every one of the reports of vaping non-
  compliance they have received.
- 40.6 per cent of local authorities have carried out no investigations into non-compliance.
- When surveyed only 43.5 per cent of IBVTA members had been contacted by their local Trading Standards
  officer prior to or following the full implementation of TRPR.
- On average IBVTA members have seen a 24 per cent reduction in business since the TRPR came into
  force, causing some businesses to close.

The perfect storm of disproportionate regulation, Trading Standards inaction, and businesses openly selling non-
compliant product, has resulted in a negative impact on the bottom lines of responsible businesses. This is
unacceptable and sends out completely the wrong message, that businesses can openly ignore the regulations
and thrive, whilst those who have complied with the regulations suffer.

Advertising restrictions

In October 2014, the Committee on Advertising Practice (CAP) introduced a new code and guidance for the
advertising of vape products60. This was supported by a broad range of stakeholders from public health to industry
and vapers. Critically, it was working. In the main industry were promoting their products in a responsible way and
thousands upon thousands of smokers were switching to vaping. There is no evidence that such advertising was
having a negative impact. It was not acting as a gateway to vaping for non-smokers: figures produced by the ONS
show that 99 per cent of vapers are adult current or former smokers61. It was not leading to children and young
people taking up vaping: according to ASH, the most recent evidence showed the lowest recorded smoking rates
among children ever, with only 18 per cent of 11 to 15-year-olds having tried smoking in 2014 compared with 42
per cent in 200362. The real effect of this advertising was introducing thousands of smokers to vaping and
contributing to the lowest smoking rates on record in both England63 and Scotland64.

In February of this year, as a direct result of the TPD, a new code and guidance for the advertising of vape
products was introduced65. It is now no longer be possible to advertise nicotine-containing vape products through
the following (amongst others):

- Newspapers, Magazines, Periodicals
- Commercial e-mail or text
- Companies own websites and social media platforms (non-promotional information can be given)
- Television and radio

The TPD has done a huge disservice to an accepted standard of advertising that has served both industry and
regulators well.

63 http://www.bbc.co.uk/news/health-37406105
64 http://www.gov.scot/Publications/2016/09/4029/1
We believe there are no grounds to justify these new restrictions. Critically, we are deeply concerned that these restrictions will further entrench the dominant position of the tobacco industry by making it increasingly difficult for the legitimate independent vape industry to promote sensibly their businesses and the products they manufacture and sell; products that are at least 95 per cent less harmful than tobacco.

The new CAP Code effectively places a significant ban on the legitimate marketing activities of IBVTA members and in many cases, will damage established business models. There will be no positive outcome from this as there was no problem that needed addressing.

Why would any regulator or politician want to deny a smoker access to information that could help them switch to a less harmful alternative? We therefore hope that this new guidance will be revised at the earliest opportunity and that CAP will take on board our concerns and positive recommendations for a more proportionate set of advertising guidance.

With this in mind, the IBVTA welcomed the recent CAP/BCAP proposal to remove the prohibition on health claims from unlicensed nicotine-containing vape products. Specifically, the IBVTA welcomed the fact that such health claims will need to be substantiated. That this proposed relaxation comes after the most effective means of businesses communicating with the public have been banned is far less welcome.

How safe are vape products?

Stories regarding “exploding e-cigarettes” are a routine feature in the media. However, it is never the vaping device that vents, it is the battery.

Despite the impression, often given by the media, such incidents are rare. In the period between April 2014 to March 2015 the fire and rescue services were called to 62 vape battery related fires. This compares with 1,878 fires caused as a result of tobacco products in the same period. In March of this year, the assistant commissioner for fire safety in the London Fire Brigade said, “Switching from tobacco smoking to vaping could cut fire deaths.”

As with all electrical products, there are existing regulations and safety standards already applicable to vape products. Such standards are routinely met by the products imported or manufactured by IBVTA members, who demand a high level of quality in all products they import and allow to carry their brand. Two larger importers with IBVTA membership currently monitor a failure with risk of harm to customers or property at rates less than one product per hundred thousand sold. IBVTA members have actively engaged with BSI, CEN, and ISO, both meeting required standards, and contributing to the development of BSI PAS 54115:2015, CEN TC437, and ISO TC126.

The IBVTA has sent all its members detailed guidance on battery safety, and the advice and information we expect them to provide to customers. In addition to this, we have produced a poster that members can display in their businesses. The poster contains the following battery safety advice for businesses and consumers:

- Always buy from a reputable vendor that is proud of the quality of their goods,
- Check that the product or packaging displays the correct CE and ROHS markings and that the distributor can prove their authenticity,
- Do not mix a battery from one supplier with a charger from another unless compatibility is specifically confirmed,
- Attach the battery to the charger in accordance with the manufacturers’ instructions,
- Do not charge the battery close to flammable materials,
- Always ensure batteries are charged using a suitable power source,
- Do not leave a charging battery unattended, and ensure battery and charger connections are always clean,
- Never allow your battery to come into contact with metal items such as loose change or keys in a pocket or bag as this can result in a short circuit of the battery,
- Removable batteries must be stored and transported in suitable containers when not in use,
- If the battery is in any way damaged, leaking or ceases to function normally, it should not be used, and

According to the Home Office, in the period April 2014 – March 2015, Smokers’ materials (such as cigarettes, cigars or pipe tobacco) caused 36 per cent of fatalities in accidental dwelling fires in 2014/15, and was by far the largest ignition category. There were 31,300 dwelling fire incidents in this period, of which six per cent were caused by smokers’ materials. (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/532364/fire-statistics-england-1415-hosb0816.pdf).

• Batteries should be disposed of and recycled correctly.

The overwhelming majority of vapers adhere to the above advice and therefore go through their vaping life without incident. However, IBVTA members have committed to working proactively and positively with the Department for Business, Energy, and Industrial Strategy (BEIS), the Chartered Trading Standards Institute (CTSI), and Local Authority Trading Standards officers to ensure that the electrical safety of vape products is continuously improved, thus reducing what can already be regarded a minimal safety risk when compared with combustible tobacco.

Finance

There is a thriving independent vape industry in the UK providing consumers with a wide range of quality vape products. The UK’s independent vape industry has a global reputation for quality and innovation. According to one recent study, vaping is now the fastest growing industry in the UK[^68] and, after the United States, the UK is the second largest market for vape products in the world. At a local level, vape shops are one of the few areas of growth on our high streets[^69]. There are estimated to be 1,700 individual vape shops in the UK, of which 650 opened in 2016[^70].

It was the independent vape industry, free of links to the tobacco industry, that established vaping in the UK in 2008. It is estimated that there are now 1,100 individual vape businesses in the UK, of which 90 per cent would be classed as being independent SMEs[^71]. Evidence would indicate that the share of the market controlled by the independent industry continues to grow.

Estimates regarding the size of the UK vape industry in financial terms range from £600 million to £1 Billion. However, given the fragmented nature of the industry and the difficulty in collecting market data, it is difficult to state an exact figure.

Can vaping save the taxpayer money?

Each year 114,000 people die from smoking related illnesses, according to figures produced by the NHS[^72]. These illnesses cost the NHS £2 billion per year[^73].

Apart from the obvious health gains of a smoker switching to vaping, there are also wider fiscal benefits. In its Impact Assessment for the TPD, the Department of Health (England) estimates the average discounted value for the benefit of quitting smoking to be £72,000 per successful quit arising from longer life[^74]. This is a significant financial gain for society and significantly exceeds the revenue lost to government from a smoker quitting (£11,000[^75])

Vaping represents a market-based, user driven, public health insurgency. Increasingly smokers are turning away from state provided solutions and going to independent vape shops in the private sector when they want to stop smoking. No taxpayers’ money has been spent, yet smokers are stopping, switching, and cutting down through the use of vape products. Every day IBVTA members are helping people switch from smoking to vaping.

According to NHS Digital’s Annual Smoking Cessation Report[^76], the number of people accessing NHS Stop Smoking Services fell for the fifth consecutive year in 2016/17. Specifically, the report said there was a 15 per cent drop in the number of patients setting a quit date, to 307,507, compared with the previous year. The number of people who successfully quit smoking with the help of NHS services also declined, by 16 per cent, to 155,875.

[^68]: http://www.talk-business.co.uk/2016/04/12/can-e-cigs-continue-fastest-growing-industry-uk/
[^69]: http://www.heraldscotland.com/news/14341201.Vaping_creates_a_boost_for_Scotland_s_high_streets/
[^70]: Figures supplied by ECigIntelligence
[^71]: Figures provided by the Parliamentary Office for Science and Technology
[^72]: https://www.nhs.uk/chq/Pages/2344.aspx?CategoryID=53
[^73]: http://ash.org.uk/download/tag-tobacco-economics/
[^74]: Department of Health (England). Impact Assessment for Tobacco Products Directive (TPD), April 2016 – paragraph 76 and Annex A. On average, each additional non-smoker will gain 1.2 life years (discounted). Each life-year gained is valued at £60,000 based upon studies of what members of the public are on average willing to spend to reduce their own mortality risk, or to improve their own health outcomes.
[^76]: http://www.pulsetoday.co.uk/clinical/more-clinical-areas/smoking-cessation/nhs-smoking-cessation-services-see-continued-decline-in-patient-take-up/20035090.article
Despite this decline, smoking rates have continued to fall and are now at record low levels. The report added that, the “reduction in recent years may be partly due to the increased use of e-cigarettes which are widely available outside of these services.”

The Net Ingredient Cost (NIC) of all prescription items used to help people quit smoking was £28.5m in 2016/17 – less than half of the total in 2010/11 when the NIC of all items peaked at £65.9m, the report added.

At a local level, local authorities are spending less money on Stop Smoking Services and at the national level the NHS and is spending less money on prescription items to help people quit. At the same time, smoking rates are at a record low.

Vaping is helping people stop smoking and saving the taxpayer money at the same time. There are currently 2.9 million vapers in the UK, of whom 1.5 million have stopped smoking completely77, producing a financial gain for society of at least £108 billion78. Given the ability to advertise and a more proportionate regulatory regime then even more smokers would stop with vaping and significant sums of taxpayers’ money would be saved to be spent in other areas.

Novel tobacco products (such as ‘heat not burn’)

The IBVTA notes that this call for written evidence makes reference to novel tobacco products, including heat not burn. Such products are not vaping devices and the IBVTA is of the opinion that it would be inappropriate for the Science and Technology Committee to include them in this inquiry.

The principle of non-discrimination as articulated by the European Court of Justice and universally applied in EU policy-making states:

“The principle of equal treatment or non-discrimination requires that comparable situations must not be treated differently and that different situations must not be treated in the same way unless such treatment is objectively justified.79”

Vaping is not smoking, vape products are not tobacco products, and the overwhelming majority of the European vape industry is free from any control or ownership by the tobacco industry. It therefore follows that vaping must be treated differently under this principle.

Despite this, vaping is continually associated with tobacco. It is even regulated as part of the Tobacco Products Directive. This is perverse.

Continually trying to shoehorn vaping into pre-existing tobacco regulation, rather than developing vape specific legislation, has always resulted in disproportionate and inappropriate regulation, the outcome of which has been bad for the consumer, the independent vape industry, and ultimately public health. If vaping is to achieve its full potential, it needs to be regulated through vape specific regulation.

Heat not burn is a relatively new innovation on behalf of the tobacco industry. Since its arrival, some people, who do not necessarily have the best interests of vapers or vaping at heart, have sought to imply that it is similar to vaping in terms of relative harm and that it is essentially another vaping product. It is not. It is a tobacco product, and as the IBVTA’s own analysis and that of others has shown, it is significantly more harmful than vaping. Independent organisations such as ASH and some government departments have made a clear distinction between vaping and heat not burn.

It would be profoundly unhelpful if the Science and Technology Select Committee sought to continue to “muddy the water” by implying some sort of link between vape products and heat not burn products or implied they were part of the same category.

Conclusion

78 In its Impact assessment for the TPD, the Department of Health (England) estimates the average discounted value for the benefit of quitting smoking to £72,000 per successful quit arising from longer life [April 2016 – paragraph 76 Annex A]. This is a significant financial gain for society and significantly exceeds the revenue lost to government from a smoker quitting (£11,000) [April 2016 – paragraph 72 Annex A].
79 Case 304/01 Sept 2004 Spain v European Commission para 31
There is never a situation where it is better to smoke than it is to vape. The independent vape industry has the potential to deliver significant, never before seen, public health gains, not just in the UK, but globally. There is therefore huge potential to deliver a positive return for UK PLC, and the fact that virtually all vapers switch using their own resources, there is the potential to save the taxpayer significant sums of money.

The UK has been at the forefront of the vaping revolution from the beginning and credible independent scientific, public health, and tobacco control bodies have been gathering data on vaping from 2008. This data provides a very clear picture of the state of vaping in the UK and the impact it is having. It is possible therefore, to say with some confidence, that we know a vast amount about vaping over a wide range of areas:

- In 2015, PHE and The Royal College of Physicians concluded that vaping was at least 95 per cent less harmful than smoking\(^8\). This conclusion is supported by The Royal College of General Practitioners\(^8\) and many other independent medical and public health bodies, including Cancer Research UK and the British Lung Foundation. In September of this year, more than 20 health bodies in Scotland signed a consensus on the benefits of vaping\(^8\). The IBVTA and others credibly believe vaping to be as much as 99 per cent less harmful.

- Research into vapers who have never previously smoked found no negative impact on the lungs over a period of several years and recent studies into the cancer risk of vaping compared to smoking concluded that the cancer risk from vaping at just one per cent compared to smoking\(^8\). 

- Vaping is now recognised as the number one tool used by smokers wanting to stop and is an increasingly effective tool. There are currently at least 2.9 million vapers in the UK of whom 1.5 million have given up smoking completely. As the number of vapers has increased, the number of smokers has decreased. This should be cause for celebration.

- Research produced by the ONS makes clear that 99 per cent of vapers are current or former adult smokers\(^8\) and research produced by ASH\(^8\) demonstrates that regular use of vape products amongst children and young people is rare and is confined almost entirely to those who currently or have previously smoked\(^8\). Furthermore, there is no evidence of vaping acting as a gateway to smoking. If there were, smoking rates would be rising as vaping has become more popular, instead smoking rates are at their lowest levels, including amongst children.

- As with all electrical products, there are existing regulations and safety standards already applicable to vape products. Such standards are routinely met by the products imported or manufactured by IBVTA members. The testing and notification regime operated by the MHRA, provides very important data for the protection of public health, and a mechanism by which unsafe products can be removed from the market.

There is a staggering amount of research and data collection taking place with regard to vaping and our knowledge and understanding of vaping increases on an almost daily basis. This can only be a good thing. At the same time, IBVTA members have actively engaged with BSI, CEN, and ISO, both meeting required standards, and contributing to the development of BSI PAS 54115:2015, CEN TC437, and ISO TC126. Additionally, IBVTA members have committed to working proactively and positively with BEIS, CTSI, and Local Authority Trading Standards officers to ensure that the electrical safety of vape products is continuously improved, thus reducing what can already be regarded a minimal safety risk when compared with combustible tobacco.

These are all positive developments that should provide members of the Science and Technology Select Committee with confidence.

Finally, there is the issue of regulation, and advertising restrictions in particular. As a responsible trade association, the IBVTA is not opposed to regulation. Some aspects of the TRPR, namely the testing and notification of e-liquids are sensible. However, restrictions on bottle and tank sizes, restrictions on nicotine strengths, and advertising bans, far from making vaping more attractive to smokers or even less harmful compared to smoking, instead make vaping less attractive, more expensive, and will have no impact on the limited risk associated with vaping.

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\(^8\) http://www.bbc.co.uk/news/uk-scotland-4133537

\(^8\) http://tobaccocontrol.bmj.com/content/early/2017/08/04/tobaccocontrol-2017-053808?papetoc=


\(^8\) http://metro.co.uk/2014/04/27/ecigs-cleared-of-being-route-into-smoking-4710734/

If vaping is to achieve its full potential then the current regulations need to be enforced and a new vape specific, risk-based, and proportionate regulatory regime needs to be implemented at the earliest opportunity following the UK's withdrawal from the EU. If this happens then the future for the independent vape industry and public health is very exciting indeed.

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