Minister for Public Health or Chief Medical Officer: who is right about e-cigarettes?

written by Clive Bates | 2 July 2015



Minister for Public Health Chief Medical Officer

Who is right about e-cigarettes?

It is not often that Ministers and senior officials take such different public positions on important policy matters, but on tobacco harm reduction and e-cigarettes, English health ministers and Chief Medical Officer for England take a quite different view. The CMO is given a measure of independence and can speak out as they please, but this is on the tacit understanding that the CMO provides dispassionate, scientifically reasoned advice in areas in which they are qualified to advise – *to speak truth to power* if you like. But what if the CMO isn't providing scientifically grounded advice? Let's examine their respective positions…

The Minister for Public Health

Public Health Minister, Jane Ellison MP made a reasonable statement responding to a Parliamentary Question on 11 March 2015, setting out the world's most rational position on these products.

> *According to the ASH Smokefree GB survey, around two million adults in Great Britain currently use e-cigarettes. A third are ex-smokers who have given up completely, and a further third are using them as part of a quit attempt.*

> *While e-cigarettes are not completely without risk, they carry a far lower risk to health than smoking tobacco. A recent Cochrane Review found that e-cigarettes can help smokers to quit or reduce their smoking and the National Centre for Smoking Cessation and Training (NCSCT) advice to local stop smoking services is that they should be open to helping smokers who want to quit smoking with the help of e-cigarettes, especially in those that have tried, but not succeeded, in stopping smoking with the use of licensed stop smoking medicines.*
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> *Public Health England (PHE) is responsible for reviewing the evidence on e-cigarettes and providing evidence-based recommendations to inform the Government's future thinking. In May 2014 PHE published an expert report from Professor John Britton, one of the UK's leading respiratory physicians and tobacco researchers (available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/311887/Ecigarettes_report.pdf).*

This position reflects a cautious consensus among the credible experts and is evidence based. For example, the Royal College of Physicians which has been providing authoritative synthesis of the science on smoking since 1962, says the following:

> *The RCP recognises that electronic cigarettes and other novel nicotine devices can provide an effective, affordable and readily available retail alternative to conventional cigarettes. These innovations could make harm reduction a reality for smokers, as proposed in our 2007 report.*
>
> *On the basis of available evidence, the Royal College of Physicians believes that e-cigarettes could lead to significant falls in the prevalence of smoking in the UK, prevent many deaths and episodes of serious illness, and help to reduce the social inequalities in health that tobacco smoking currently exacerbates.*

The Chief Medical Officer for England

The CMO for England, Dame Sally Davies DBE in contrast has been very negative. In New Scientist in March 2014 she declared e-cigarettes as one of the three "biggest health threats" in the UK (along with poor diet and lack of

exercise). In the Times in October 2014, she opined:

> *Vaping is promoted as an alternative to smoking but the chief medical officer is not convinced. "I don't think the evidence is strong enough to say they do help people stop. They really ought to just stop." In fact she worries that e-cigarettes may be encouraging non-smokers to take up the habit. "There is evidence from the States in children."*
>
> *Flavoured e-cigarettes should, she thinks, be banned. "I would like to see [e-cigarettes] regulated as medicinal products, so what you buy and what it says on the tin is what you're getting," she says. "At the moment you don't know whether the dose is consistent from packet to packet, whether it's high or low."*
>
> *There should also be more safety checks. "If they're made as medicinal products then you're going to have a high-quality product, one that won't cause household fires. And they won't have flavourings in them which, vaporised and volatile, may not be safe. Butterscotch is great to eat but if you inhale it, for susceptible people it can give you chronic lung failure."*
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> *More should also be done to limit the way in which vaporisers are promoted. "My daughter showed me some packets in a duty-free shop and they looked very glamorous and very appealing. That does worry me."*

Who is right?

Who is right? The Minister for Public Health is right.

There is no science to back any of the CMO's assertions, which we examine briefly in the paragraphs below.

On quitting. "*They really ought to just stop*" betrays a poor understanding of how this behaviour works, how hard it is to quit (and how many don't really want to try) and how unsuccessful the various approved treatments are. They typically raise quite rates from 4% to 6% for NRT. The most comprehensive study so far of 'real world' use of e-cigarettes showed e-cigarettes were much more success at smoking cessation than the licensed products used in real-world settings [link]

> *People attempting to quit smoking without professional help are approximately*

> *60% more likely to report succeeding if they use e-cigarettes than if they use willpower alone or over-the-counter nicotine replacement therapies such as patches or gum*

ONS data on who smokes hows that use is concentrated overwhelmingly among smokers.

> *E-cigarettes are used almost exclusively by smokers and ex-smokers. Almost none of those who had never smoked cigarettes were e-cigarette users*

Data from ASH/YouGov on e-cigarette use by adults is very encouraging:

- *An estimated 2.6 million adults in Great Britain currently use electronic cigarettes.*
- *Nearly two out of five users are ex-smokers and three out of five are current smokers.*
- *The main reason given for use by smokers who currently use electronic cigarettes is to reduce the amount they smoke while ex-smokers report using electronic cigarettes to help them stop smoking.*

While ASH/YouGov data e-cigarette use by children suggest little basis for the CMO's concerns.

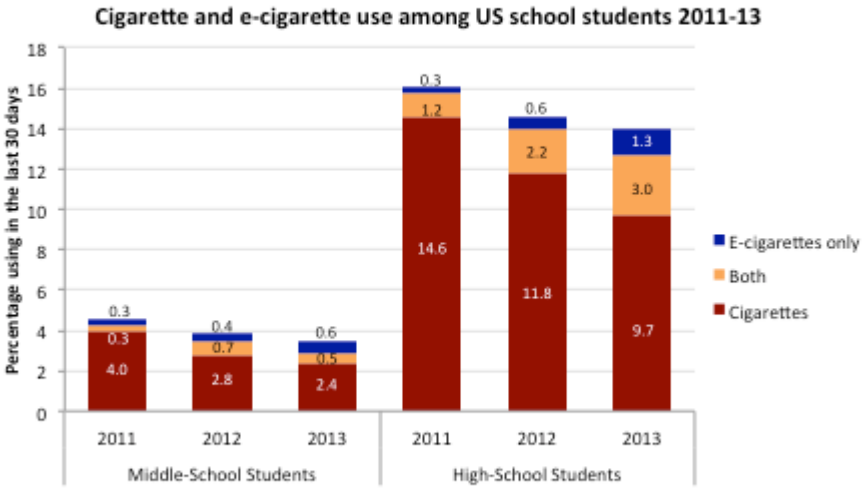
> *Regular use of electronic cigarettes amongst children and young people is rare and is confined almost entirely to those who currently or have previously smoked.*

In fact use of e-cigarette by kids who would otherwise smoke may be a reason to be encouraged. We do not know whether her daughter's experience in a duty free shop has led her daughter to become a vaper or smoker. Unless it has, we are unsure of the point of this anecdote – it might simply confirm that kids do not just look at something and then do it. In fact, we see no value in the anecdote at all.

On the "evidence from the States in children" – in fact the evidence shows the exact opposite of a problem and makes the opposite point to the CMO. E-cigarette use has risen in teenagers in line with the growth in use among adults,

but the effect has been an accelerated decline in smoking and all nicotine use (see chart). Adolescents who are likely to smoke are, for the same reasons, also likely to be interested in e-cigarettes (a so-called shared liability model). But if they use e-cigarettes instead, that is a great advantage.

E-cigarette growth coincides with decline in smoking



Sources: Raw data from CDC National Youth Tobacco Surveys 2012-13. Analysis and graphic by Brad Rodu

On risks. There is a consensus that e-cigarettes will be at least 95% less risky than smoking – based on what is known of vapour and cigarette smoke toxicity – and the maxim that 'the dose makes the poison'. In fact no material risks have been identified so far. Professor Robert West of University College London, Professor Peter Hajek of Queen Mary University of London, Professor Ann McNeill, of Kings College London, Dr Jamie Brown of University College London and Deborah Arnott, the Director of Action on Smoking and Health, put the relative risk in perspective: E-cigarettes – what we know.

> *From analysis of the constituents of e-cigarette vapour, e-cigarette use from popular brands can be expected to be at least 20 times safer (and probably considerably more so) than smoking tobacco cigarettes in terms of long-term health risks*

On flavourings. It is a simplistic flaw to believe that adolescents are attracted to childish flavours – adolescents normally want to reinforce their adult status. The one study that has actually looked at flavourings and teenagers (US-based)

showed they had minimal interest (rating their interest at 0.42 out of 10) in flavours and that the there was little difference between disinterest in different flavours – though with Single Malt Scotch and Classic Tobacco slightly in the lead [link][release] – two obviously 'adult' flavours. However, for adults trying to move away completely from tobacco use, flavours are extremely important in breaking the link. See for example: .

> *Conclusions: The results of this survey of dedicated users indicate that flavours are marketed in order to satisfy vapers' demand. They appear to contribute to both perceived pleasure and the effort to reduce cigarette consumption or quit smoking. Due to the fact that adoption of ECs by youngsters is currently minimal, it seems that implementing regulatory restrictions to flavours could cause harm to current vapers while no public health benefits would be observed in youngsters*
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> *Farsalinos KE, et al. Impact of flavour variability on electronic cigarette use experience: an internet survey. Int J Environ Res Public Health [Internet]*

On regulation. It is not the case that these products are "unregulated". They are just not regulated as medicines. At least 17 EU consumer protection directives already apply [General Product Safety 2001/95/EC; Technical Standardisation 1025/2012; Classification, Labelling and Packaging CLP 1272/2008; REACH 1907/2006; Low Voltage 2006/95/EC; Electro-Magnetic 2004/108/EC; RoHS 2011/65/EU; WEEE 2012/19/EU; Batteries 2006/66/EC**;** Weights and measures 76/211/EEC 2007/45/EC; Sale of goods 99/44/EC; Distance Selling 97/7/EC; Electronic Commerce 2000/31/EC; Misleading Advertising 2006/114/EC; Unfair Commercial Practices 2005/29/EC; Protection of Personal Data 95/46/EC]. A new purpose built directive, the Tobacco Products Directive has been passed comes into effect in May 2016 – this is poorly designed and excessive regulation but is simply not correct to say to the media that these products are unregulated.

On medicine regulation. It is common for doctors to venture far beyond their competence, but the CMO cannot make a recommendation on a licensing regime without considering what the extremely high costs, restrictions and burdens of medicines licensing would do to the market as a whole, especially if it reduces the uptake of these products and continued smoking. That requires

knowledge of costs, benefits and unintended consequences that the CMO is unlikely to have – see our 2013 report: *Costs and burdens of medicines regulation for e-cigarettes* for some insight into the issues. It would erect high regulatory barriers to entry at the product and firm level, and put a dramatic brake on innovation. It would leave the market with a few high-volume commoditised products with little of the variety and 'buzz' that is attracting smokers. The only companies likely to succeed in market where these products are licensed as medicines are the major tobacco companies (pharma has shown little interest to date). The problems that such regulation would address can be achieved by setting technical standards, or ignored because they are not actually problems.

On marketing. We have actually done well on this in the UK. The Committee on Advertising Practice (this sets the codes for the ASA to implement) upgraded its Codes in October 2014 to include non-broadcast and broadcast provisions on e-cigarettes. These strike a good balance between commercial freedom, responsible marketing and protection of children – the framework is similar to that used for alcohol. Unfortunately the EU directive will ban nearly all advertising from May 2016 – in effect protecting the incumbent cigarette trade from competition from entrants – the new much lower risk products.

On Butterscotch flavour. The CMO was badly embarrassed for claiming on TV that butterscotch flavour was causing chronic lung disease and had been withdrawn. It has actually attributed to cases of 'popcorn lung' in a popcorn factory in the US many years ago, following extremely high and sustained exposure. Some e-cigarette companies fearing adverse PR, of the type generated by the CMO, have voluntarily withdrawn it.

What should the CMO do?

I suspect the CMO won't see this as a reason to retire or refrain from commenting in this field, so here are some constructive suggestions:

1. **Concentrate on building trust.** The CMO plays a critical role in society, especially in times of emergency – for example in a SARS outbreak. It is essential that the CMO retains and builds credibility and trust in their authority. If the post-holder allows it to lapse in one important area, the

public will become understandably sceptical about pronouncements and advice in every area. The CMO

2. **See the opportunity and get the risks in proportion.** Like many experts in the field, the CMO needs to recognise the opportunity to completely reshape the market for recreational nicotine into one that is less harmful. It isn't just about quitting smoking – 19% of adults are still nicotine users and concentrated in the poorest groups in society. For them, this could be a rapid way to improve their health and wellbeing and to improve their household economics. So far the risks at individual and population level appear to be minimal and many of the vaguely expressed concerns stated above have no evidential basis.
3. **Grasp the unintended consequences of excessive regulation.** CMO needs to recognise that the regulatory ideas she advocates will have profoundly negative unintended consequences – they all have the effect of weakening a competitor to cigarettes, protecting the cigarette trade and causing more ill-health than there otherwise would be. CMO needs to build this into her mental model of the interaction between smoking and vaping markets.
4. **Seek briefing from real experts.** It is unclear where CMO is getting these ideas from – but they are not serving government or the nation well. CMO should seek briefing from the UK's experts in the field: for example Professor Robert West (UCL, runs all the smoking surveys) , Professor John Britton (Nottingham, heads Royal College of Physicians tobacco group), Lind Bauld (University of Stirling, advisor to Cancer Research UK)