



Public Health
England

Protecting and improving the nation's health

Electronic cigarettes:

A new era for tobacco harm reduction

Adapted for SW Specialist Nurses for Children in Care meeting

17 January 2017

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Use of e-cigarettes in public places and workplaces

Advice to inform evidence-based policy
making

E-cigarettes: an evidence update A report commissioned by Public Health England

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UK Centre for Tobacco & Alcohol Studies

- The gold standard is to quit and be nicotine free
- E-cigarette use is not recommended for YP
- It is illegal for U-18s to buy e-cigarettes
- It is illegal for adults to 'proxy purchase' e-cigs
- Quitting smoking is hard and e-cigs are very popular
- e-cigarettes are 95% safer than smoking tobacco
- Risk to bystanders from SH e-cigarette vapour is very low
- Current evidence does not support the 'gateway' effect
- EC are not undermining the decline in smoking prevalence
- Regular use mainly confined to those who already smoke
- Make a clear distinction between vaping and smoking
- Public perception of harm of e-cigs (& nicotine) is inaccurate
- We have a responsibility to provide clear information on the evidence we have & encourage complete smoking cessation
- This is a rapidly developing field and continued vigilance and research in this area are needed

Key quotes to recognise...

- **E-cigarette use is not recommended for young people.**
- **In the UK protection is in place via prohibitions on the sale of e-cigarettes to under-18s and purchase by adults on behalf of under-18s, and restrictions on advertising.**

(the same applies to Tobacco BTW)

“Managers of child and youth settings have a particular responsibility in managing the risk of youth uptake of e-cigarettes and might want to treat e-cigarettes as they would any other age-restricted product.”

PHE (2016) page 8.

“While it is preferable for young people neither to smoke nor to vape, when assessing the risks policies should give priority to supporting young people not to smoke.”

PHE (2016) page 9.

“The hazard associated with electronic cigarette products currently on the market is likely to be extremely low, and certainly much lower than smoking”

Smoking in Pregnancy Challenge Group (2016) Use of electronic cigarettes in pregnancy: a guide for midwives and other healthcare professionals.

Acknowledgements

Kevin Fenton, National Director for Health & Wellbeing, PHE

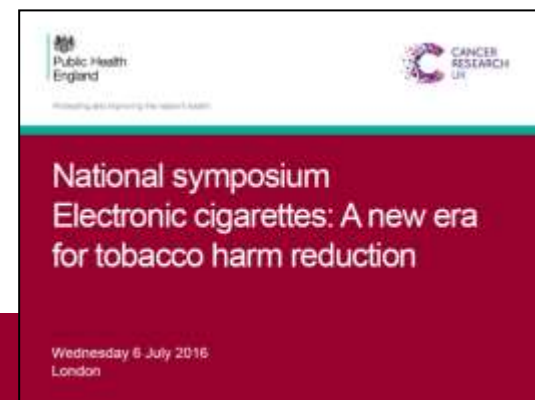
Prof Peter Hajek, Director of the Wolfson Institute of Preventive Medicine's Tobacco Dependence Research Unit at Queen Mary University of London

Prof Ann McNeill, Professor of Tobacco Addiction in the National Addictions Centre at the King's College London Institute of Psychiatry and Deputy Director of the UK Centre for Tobacco Control Studies

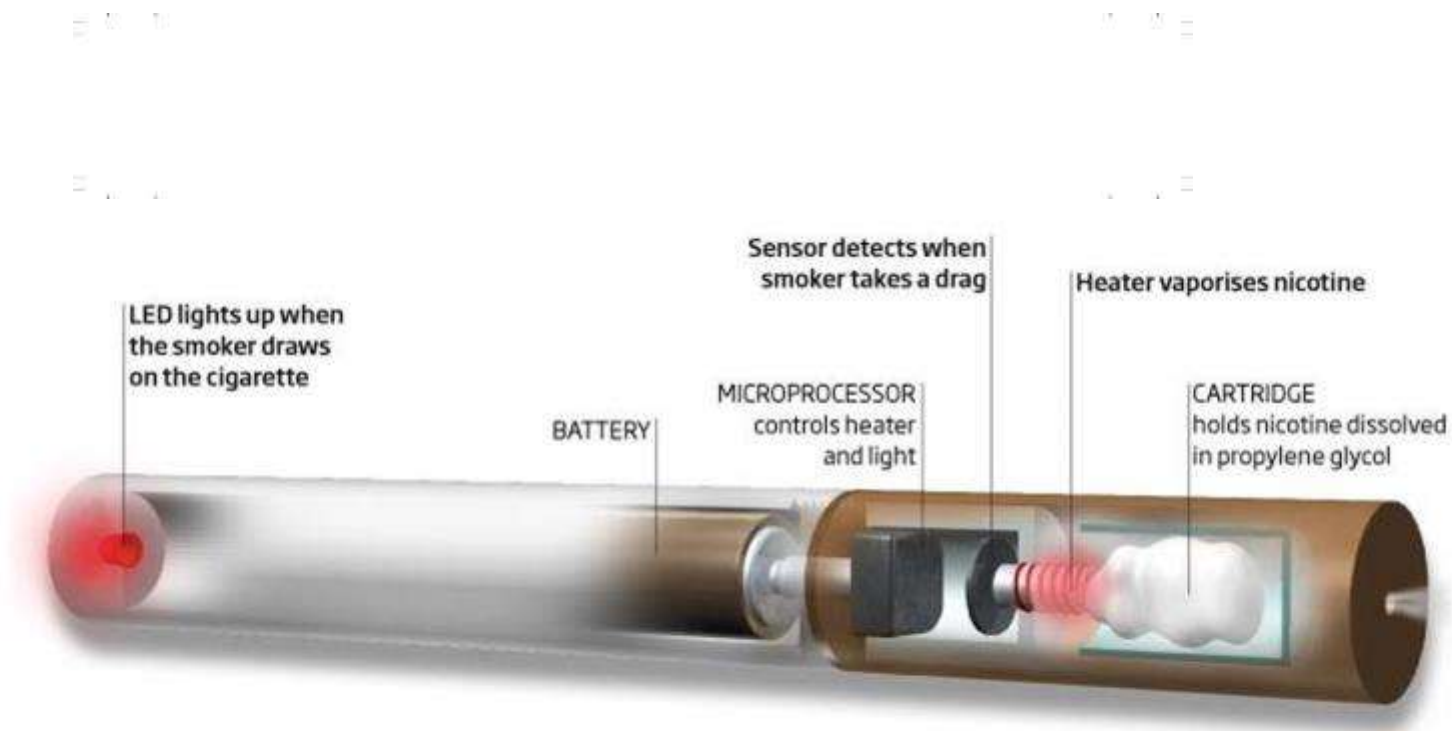
Prof John Britton, University of Nottingham and Chair of the Tobacco Advisory Group at the Royal College of Physicians

Dr Andy McEwen, Executive Director of NCSCT

Hazel Cheeseman, Director of Policy at Action on Smoking & Health



E-cigarette – first generation



Slide from Peter Hajek, Electronic Cigarettes and Public Health

E-cigarettes - second generation



Slide from Peter Hajek, *Electronic Cigarettes and Public Health*

E-cigarettes - third generation



Slide from Peter Hajek, Electronic Cigarettes and Public Health

E-cigarettes: PHE's aim

Since 2014, PHE has been working to **build consensus** within public health and beyond around an approach to e-cigarettes and harm reduction that is:

- Rooted in the evidence
- Supports NICE tobacco harm reduction guidance
- Promotes regulation and practice that maximises the public health benefits while managing the risks

Assessing the evidence, building consensus

2014:

- National symposium on e-cigarettes
- Two expert independent evidence reviews

2015:

- Stakeholder consultation on use of e-cigarettes indoors
- Independent review of the latest evidence
- Set up, with Cancer Research UK, the UK E-cigarettes Research Forum

PHE 2015: what we know



- While not completely risk free, e-cigarette use carries a fraction of the risk of smoking, with no evidence of harm to bystanders
- Now the most popular quitting aid in England and can be effective in helping people to stop smoking
- No evidence as yet that e-cigarettes are acting as a route into smoking for children or non-smokers
- Public perceptions about the relative risks of e-cigarettes and smoking have become increasingly inaccurate

PHE 2015: The Evidence Review

Key Messages

The best thing smokers can do for their health is to **quit smoking completely** and to quit for good

Current expert estimate that using EC is around **95% safer than smoking**

There has been an overall shift towards the **inaccurate perception of EC being as harmful as cigarettes**

Smokers who have tried other methods of quitting without success **could be encouraged to try e-cigarettes** (EC) to stop smoking and stop smoking services should support smokers using EC to quit by offering them behavioural support.

Encouraging smokers who cannot or do not want to stop smoking to **switch to EC could help reduce smoking related disease**, death and health inequalities.

PHE 2015: The Evidence Review

Key Messages

There is no evidence that EC are undermining the **long-term decline in cigarette smoking** among adults and youth

Regular e-cigarette use is almost entirely **confined to those who already smoke**

Recent studies support the Cochrane Review findings that **EC can help people to quit smoking** and reduce their cigarette consumption

When used as intended, EC pose **no risk of nicotine poisoning to users**

This is a rapidly developing field and **continued vigilance and research** in this area are needed



Underpinning evidence for the estimate that e-cigarette use is around 95% safer than smoking: authors' note

The estimate that e-cigarette use is around 95% safer than smoking is based on the facts that:

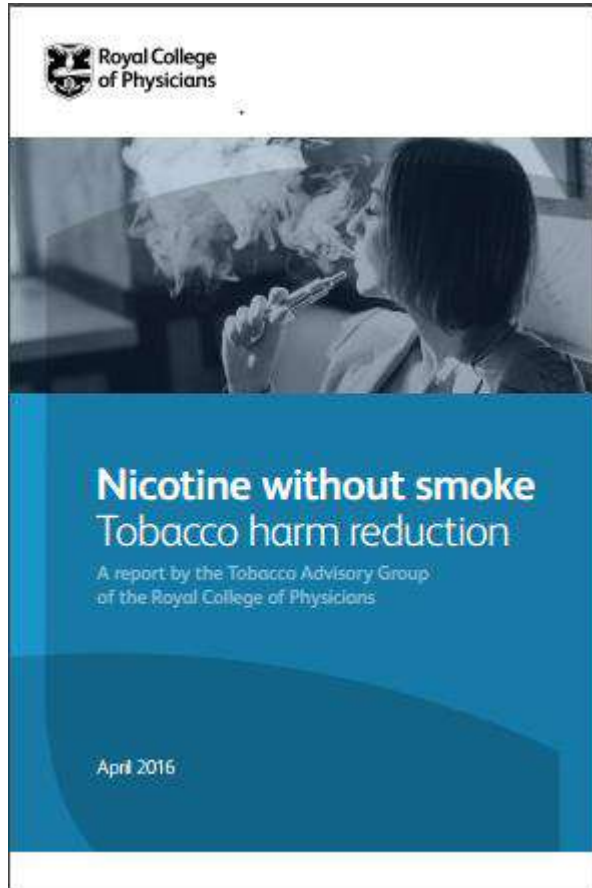
- the constituents of cigarette smoke that harm health – including carcinogens – are either absent in e-cigarette vapour or, if present, they are mostly at levels much below 5% of smoking doses (mostly below 1% and far below safety limits for occupational exposure)
- the main chemicals present in e-cigarettes only have not been associated with any serious risk

Our review¹ aimed to assess whether studies that have recently been widely reported as raising new alarming concerns on the risks of e-cigarettes changed the conclusions of the previous independent review ([Britton and Bogdanovica, 2014](#)) and other reassuring reviews.

We concluded that these new studies do not in fact demonstrate substantial new risks and that the previous estimate by an international expert panel ([Nutt et al, 2014](#)) endorsed in an expert review ([West et al, 2014](#)) that e-cigarette use is around 95% safer than smoking, remains valid as the current best estimate based on the peer-reviewed literature.

Some flavourings and constituents in e-cigarettes may pose risks over the long term. We consider the 5% residual risk to be a cautious estimate allowing for this uncertainty.

2016: the RCP report



“The hazard to health arising from long-term vapour inhalation from the e-cigarettes available today is unlikely to exceed 5% of the harm from smoking tobacco.”

“In the interests of public health it is important to promote the use of e-cigarettes, NRT and other non-tobacco nicotine products as widely as possible as a substitute for smoking in the UK.”

What we don't know yet

- Flavourings and constituents may pose long term risks
- E-cigarettes might make smoking seem normal again
- E-cigarettes might act as a route into smoking for children
- Evidence on smoking cessation is still developing
- E-cigarettes might legitimise the tobacco industry

We must continue to monitor the evidence closely

A leading role, informed by the evidence

- England's strong tradition of global leadership in tobacco control gives us a firm basis for taking a leading role
- Comprehensive regulatory system for e-cigarettes, highly compliant with WHO advice
- Multiple national surveys to monitor trends in e-cigarette use alongside those in smoking
- At the forefront in monitoring and developing the international evidence base on e-cigarettes

A developing consensus in England

- Significantly less harmful than smoking, there is no circumstance where it is better to continue to smoke
- Millions of smokers have the impression that e-cigarettes are at least as harmful as tobacco
- In the UK regular e-cigarette use is almost exclusively confined to those young people who smoke, and youth smoking prevalence is continuing to fall. We will continue to keep this under closest surveillance.
- Smoking is the number one killer in England. We have a responsibility to provide smokers with the information and the tools to help them quit smoking completely and forever

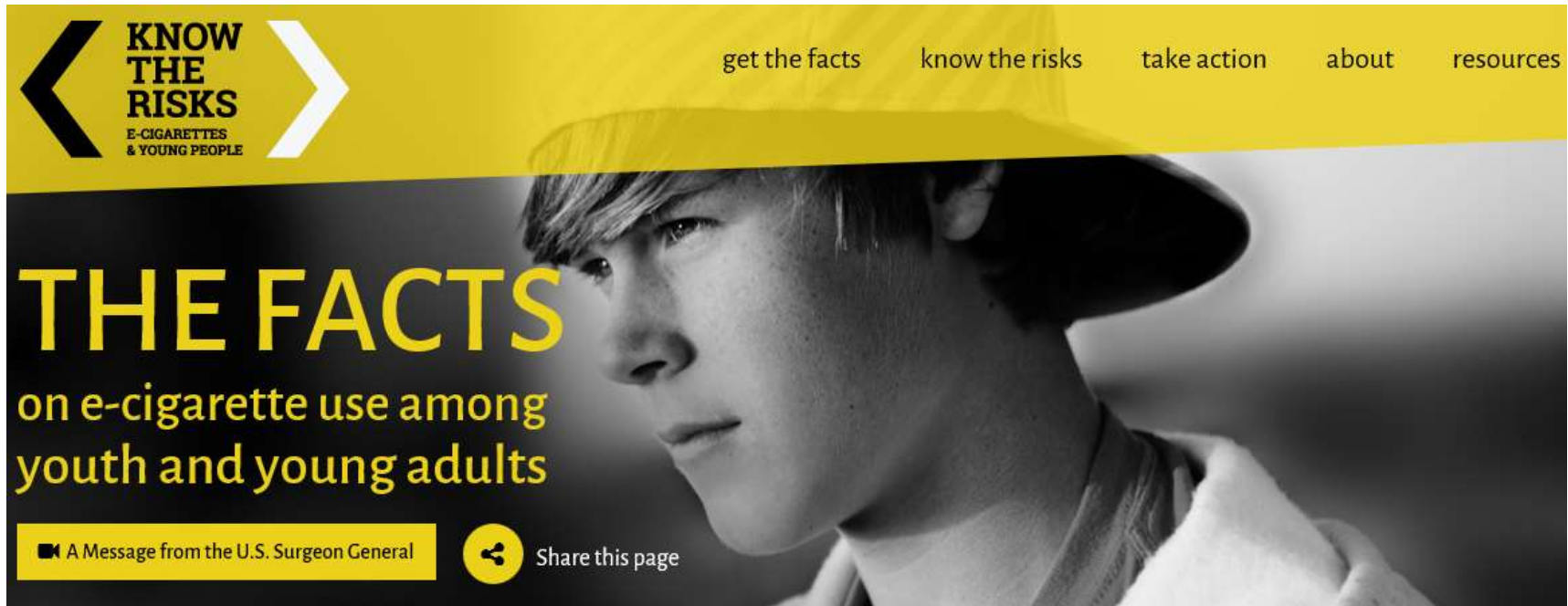
E-cigarettes: a developing public health consensus

“We all agree that e-cigarettes are significantly less harmful than smoking. One in two lifelong smokers dies from their addiction. All the evidence suggests that the health risks posed by e-cigarettes are relatively small by comparison but we must continue to study the long-term effects.”

PHE (2016, p. 1)

- Action on Smoking and Health
- Association of Directors of Public Health
- British Lung Foundation
- Cancer Research UK
- Faculty of Public Health
- Fresh North East
- Healthier Futures
- Public Health Action (PHA)
- Royal College of Physicians
- Royal Society for Public Health
- UK Centre for Tobacco and Alcohol Studies
- UK Health Forum

US Surgeon Generals Report



The image shows a website header for the US Surgeon General's report on e-cigarettes and young people. The header is yellow and features the text "KNOW THE RISKS" in large, bold, black letters, with "E-CIGARETTES & YOUNG PEOPLE" in smaller black letters below it. To the right of this text are navigation links: "get the facts", "know the risks", "take action", "about", and "resources". Below the header is a black and white photograph of a young man wearing a white hard hat, looking off to the side. Overlaid on the left side of the photograph is the text "THE FACTS" in large, bold, yellow letters, followed by "on e-cigarette use among youth and young adults" in smaller yellow letters. At the bottom left of the photograph is a yellow button with a camera icon and the text "A Message from the U.S. Surgeon General". To the right of this button is a yellow circular icon with a share symbol and the text "Share this page".

(Very different in tone and focus to the UK)

US Surgeon Generals Report

- Smoking prevalence among adult and youth in both countries are falling
- In the US EC have been classified as a “tobacco product”
- Tight controls on advertising in the UK - largely uncontrolled in US
- Dual use is much more common in the US (could that be because of risk perception?)
- The “gateway” hypothesis is given greater credence in the US - In the US “ever use” or “use in the last 30 days” is frequently the measure for current use. This gives the impression that use among youth who have never smoked is widespread.
- US – examples of campaigns to highlight risks of EC – in UK PHE worried the harm perception is discouraging people to switch (and thus realise harm reduction benefits)
- Strong claims about the harmful impact of nicotine on the foetus - see media centre summary with comments from other UK experts of interest [here](#)

US Surgeon Generals Report

Professor Kevin Fenton

National director of health and wellbeing at Public Health England said:

“We recognise the concern about youth uptake in the US where establishing regulations, especially on marketing has been difficult. The position in the UK is very different. We have comprehensive regulations in place including a ban on selling e-cigarettes to under-18s and tough restrictions on advertising, as well as minimum standards for safety, maximum nicotine levels and health warnings on packs.

“Our review of the evidence found e-cigarette use carries a fraction of the risk of smoking, a conclusion reiterated by the Royal College of Physicians earlier this year. No new evidence has been published to contradict this, however we are closely monitoring any emerging evidence.”

US Surgeon Generals Report

So we can be confident that PHE's position remains sound:

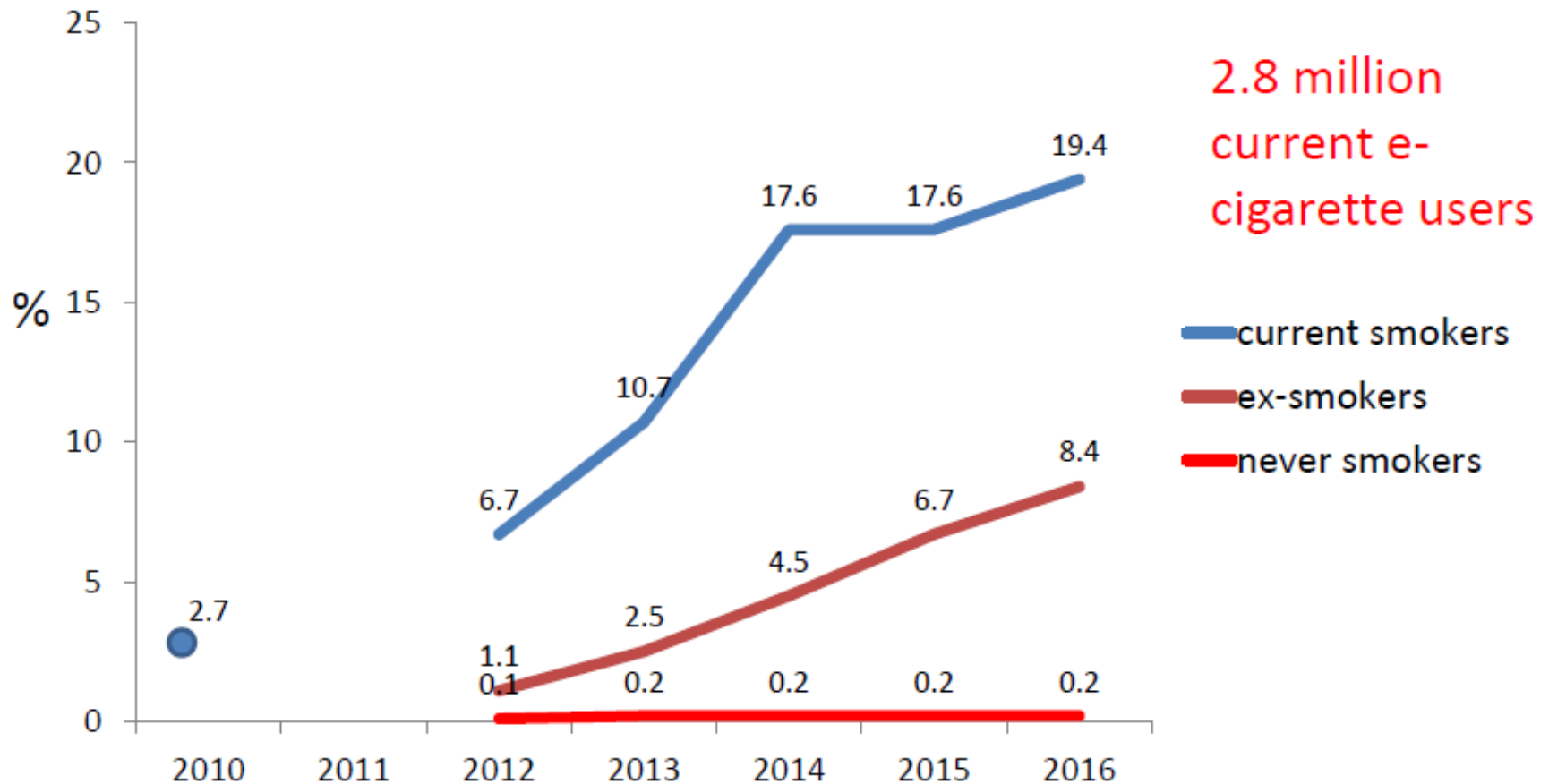
- EC are not risk free but carry a fraction of the risk of smoking.
- Use among never smokers is rare. PHE support their use only as a way for smokers to stop smoking.
- There is no evidence that EC are leading youth to smoke. PHE do not advocate their use for minors and their sale to under 18s is prohibited by law.
- Through comprehensive regulation and public education, England is seeking to maximise the opportunities presented by EC while managing the risks.

Data sources

- **National representative surveys**
 - *ASH/Yougov Smokefree GB surveys*: annual **cross-sectional internet** surveys, 2010 onwards (adults~12K); 2013/4 (children~2K)
 - *Smoking Toolkit Survey England (STS)*: monthly **cross-sectional household** surveys, 2006-16 (16+; n~1000/month)
 - *Internet Cohort Survey GB*: 2012/4 smoker & recent ex-smoker **internet cohort** (16+; n=5000 (2012); 2000 (2013); 1519 (2014))
- **International representative survey**
 - *International Tobacco Control Policy Evaluation Survey (ITC)*: Cohorts of ~2000 smokers/recent ex-smokers run approximately annually; began in Australia, Canada, UK and US in 2002; now in 22 countries

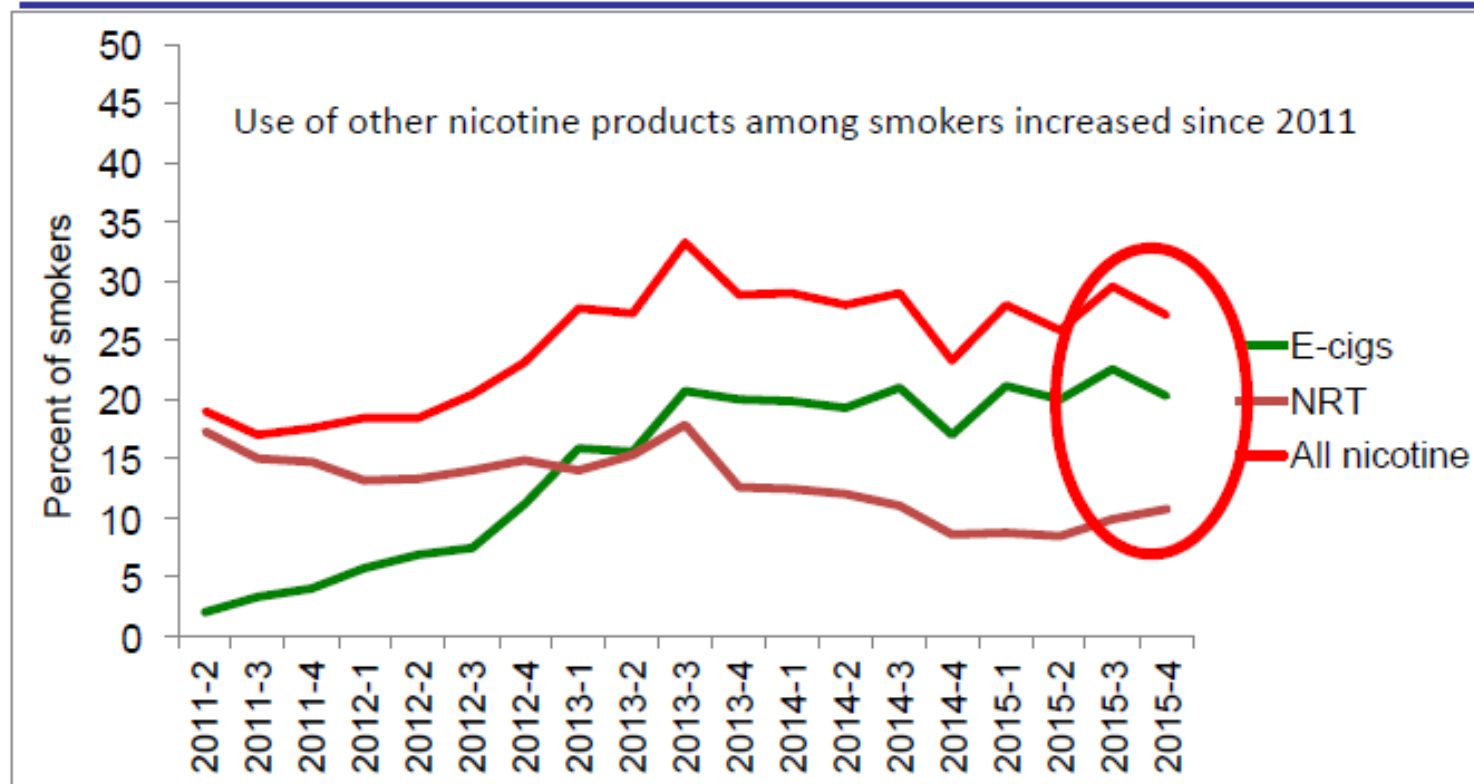
In reference to Prof Ann McNeill's graph presentations
Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Current use of e-cigarettes by smoking status (ASH smokefree adult, 2016)



Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

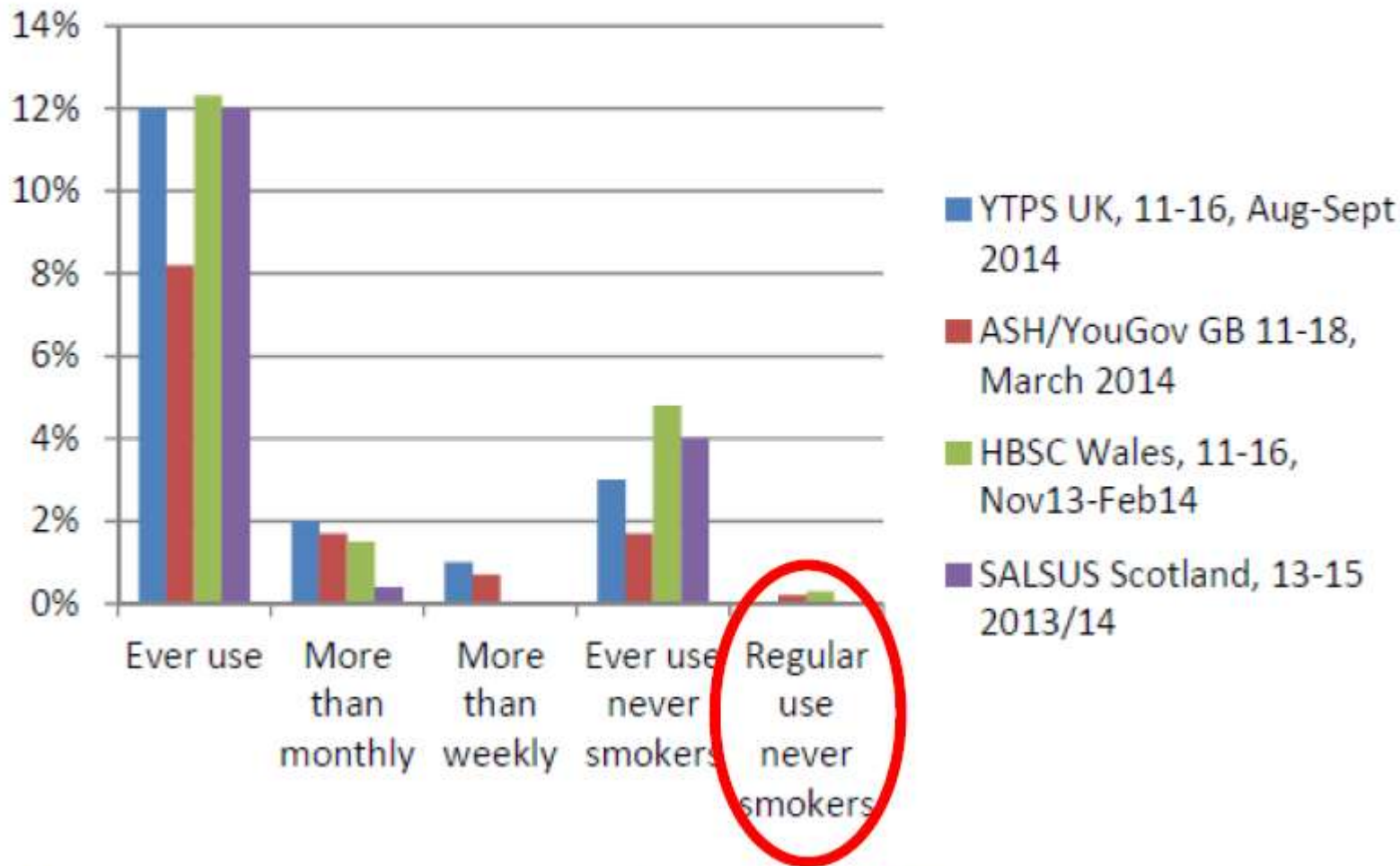
Use of other nicotine products while smoking (“dual use”)



N=18443 smokers, increase $p < 0.001$ e-cigs and all nicotine; decrease $p < 0.001$ for NRT

www.smokinginengland.info/latest-statistics

Regular e-cigarette use among children is confined to those who have smoked

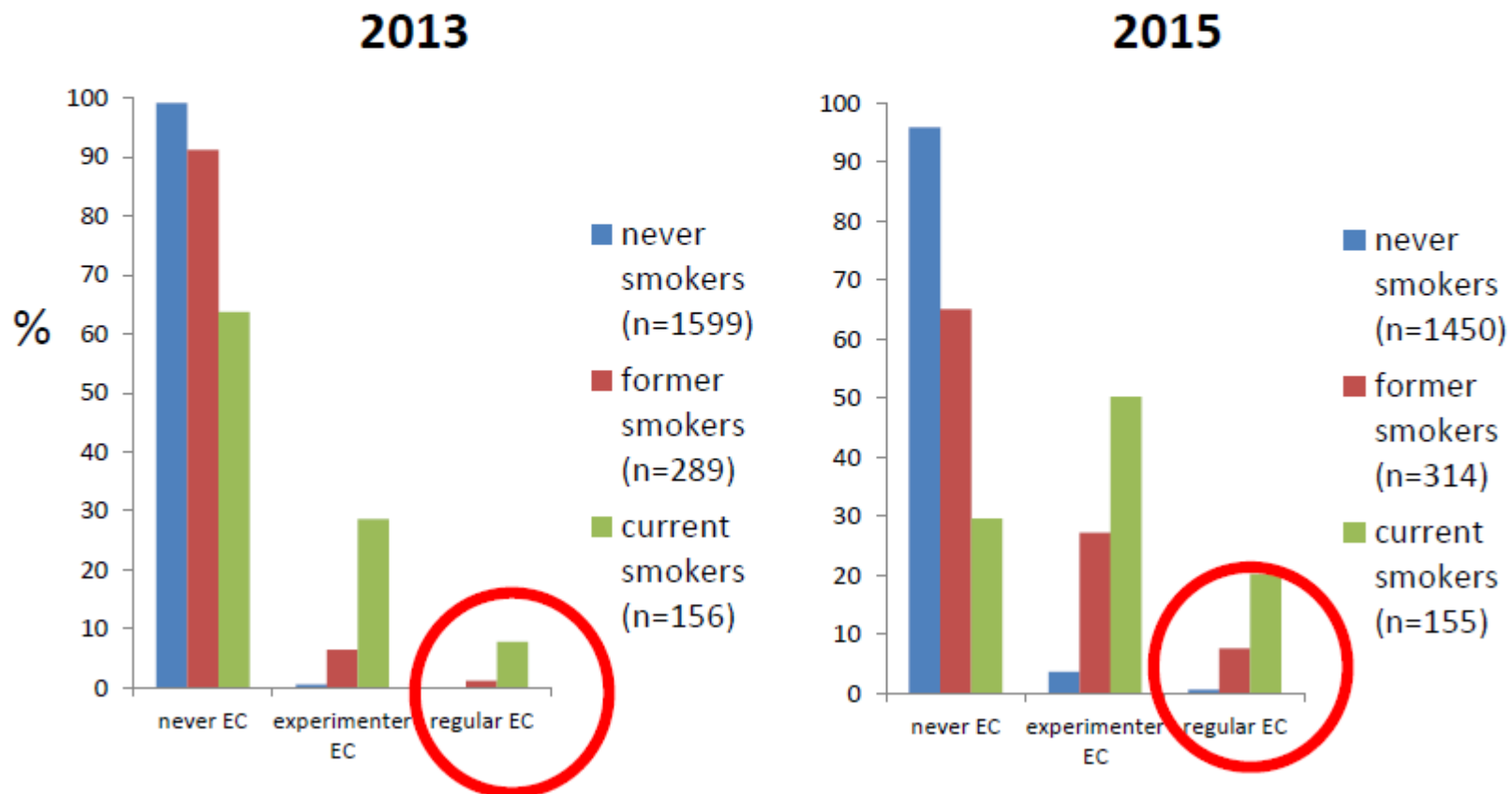


Bauld L, MacKintosh A, Ford A, McNeill A. *Nicotine & Tobacco Research*, 2015

Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

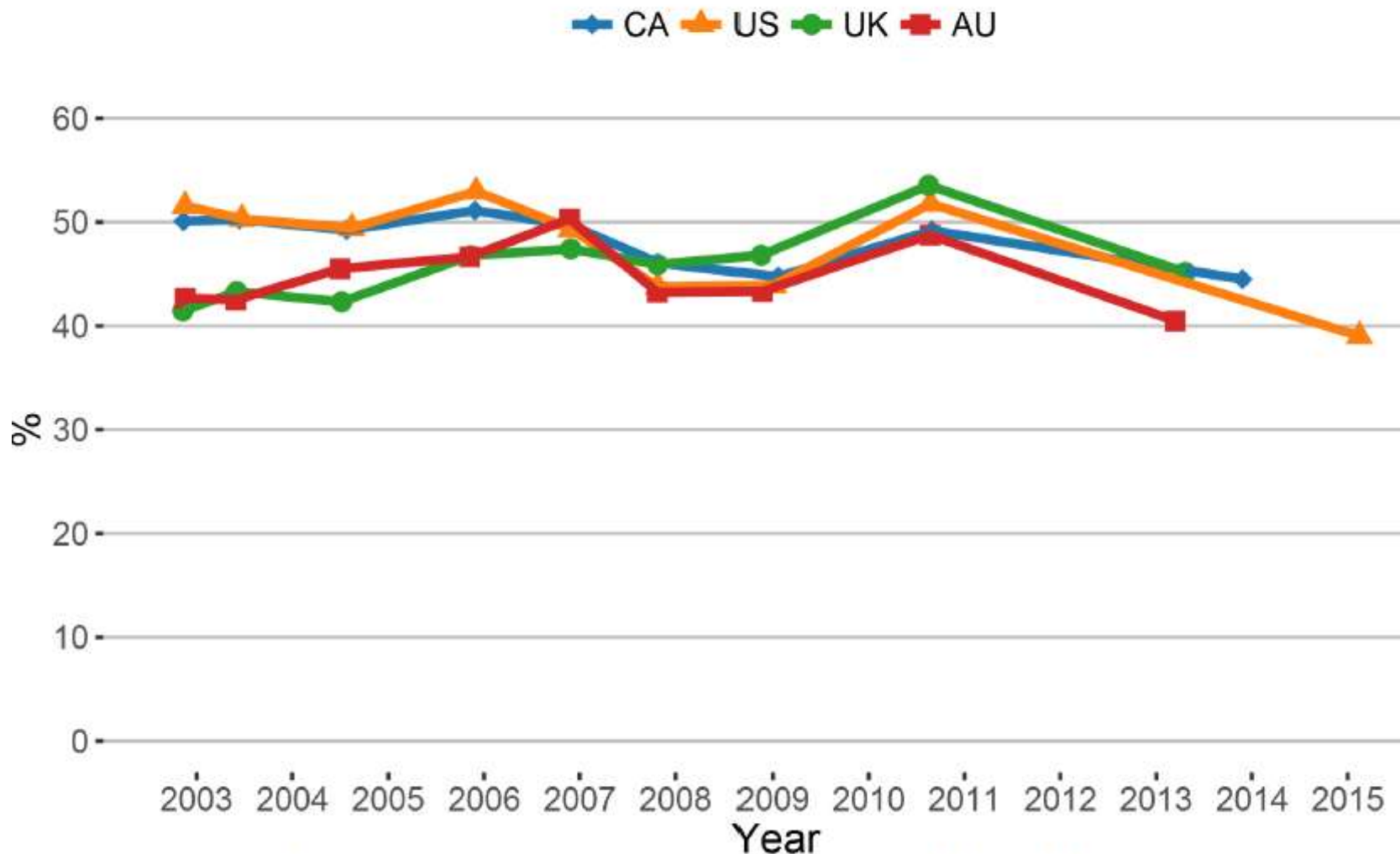
Changes in e-cigarette use among youth

(ASH smokefree youth surveys) Eastwood et al, in preparation



Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Nicotine in cigarettes does not cause cancer

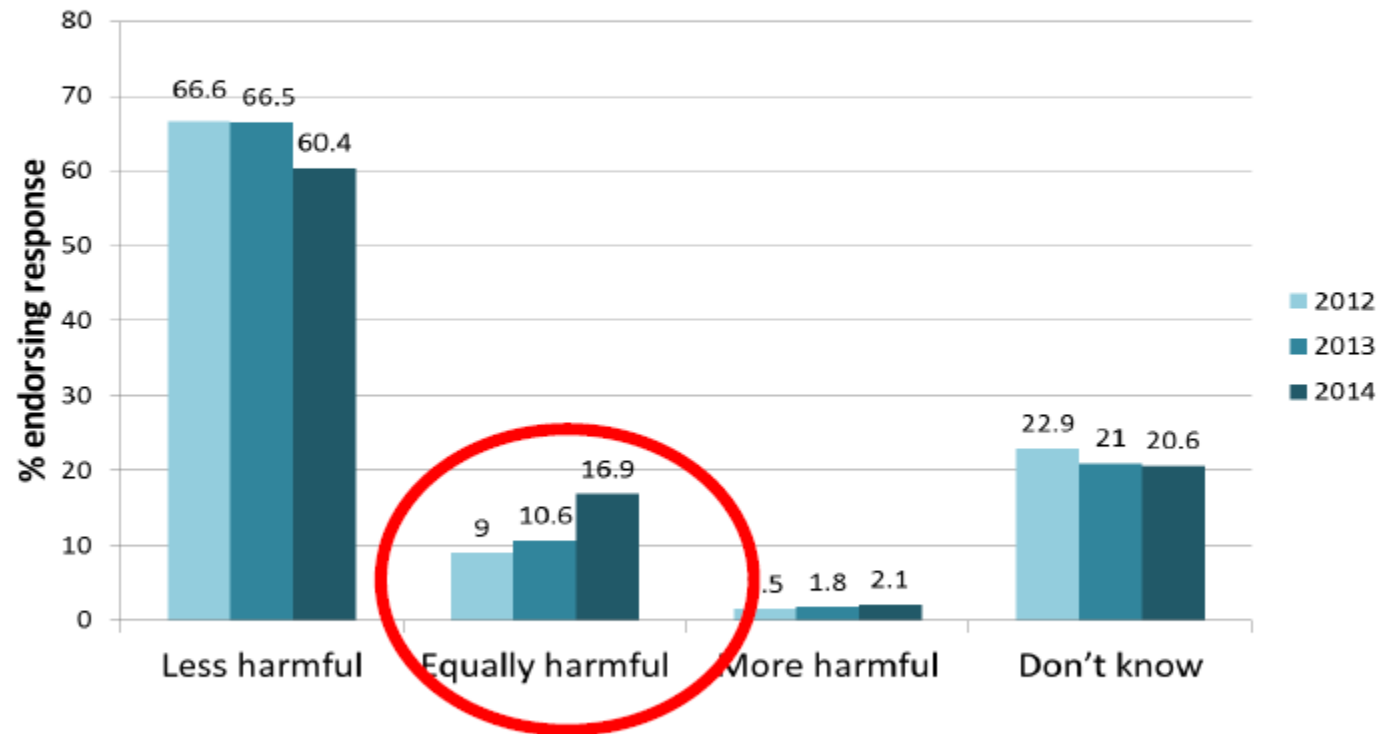


International Tobacco Control Policy Evaluation Project 2003-2015

Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Relative harm cigs/ecigs among adults

(Internet cohort survey 2012-14)

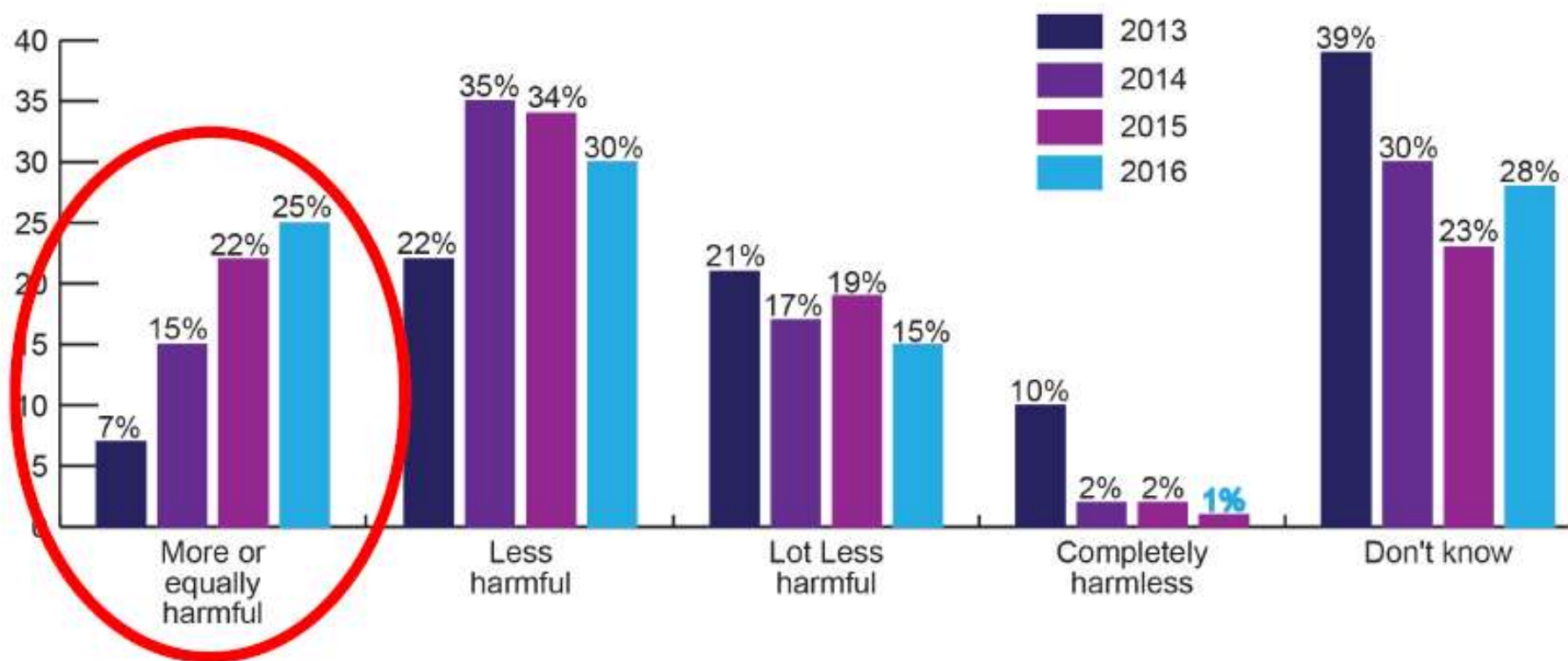


Brose LS, Brown J, Hitchman SC, McNeill A. *Drug & Alcohol Dependence*, 2015

Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Relative harm cigs/ecigs among adults

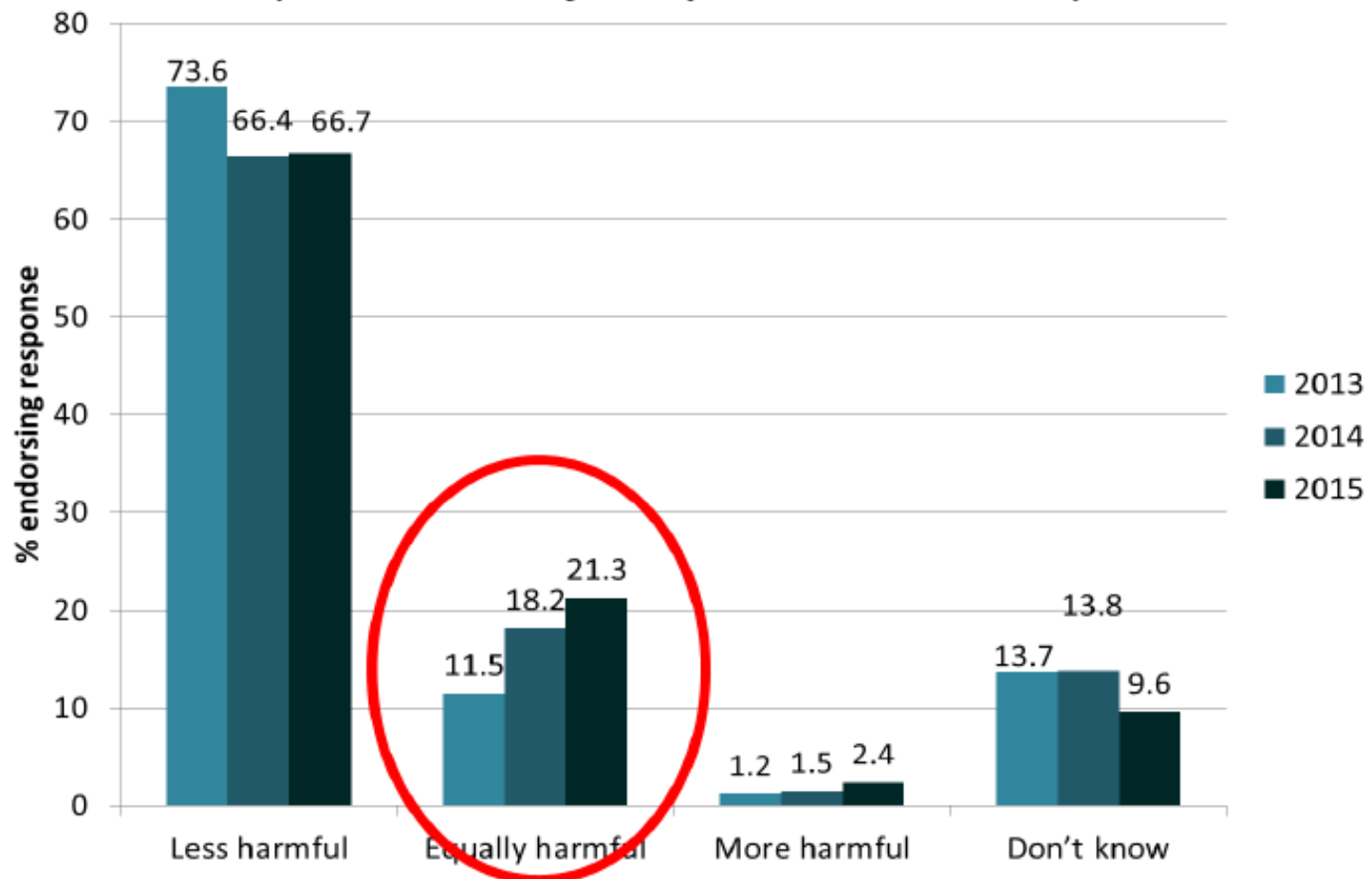
(ASH smokefree adult, 2013-16)



Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Relative harm cigs/ecigs among youth

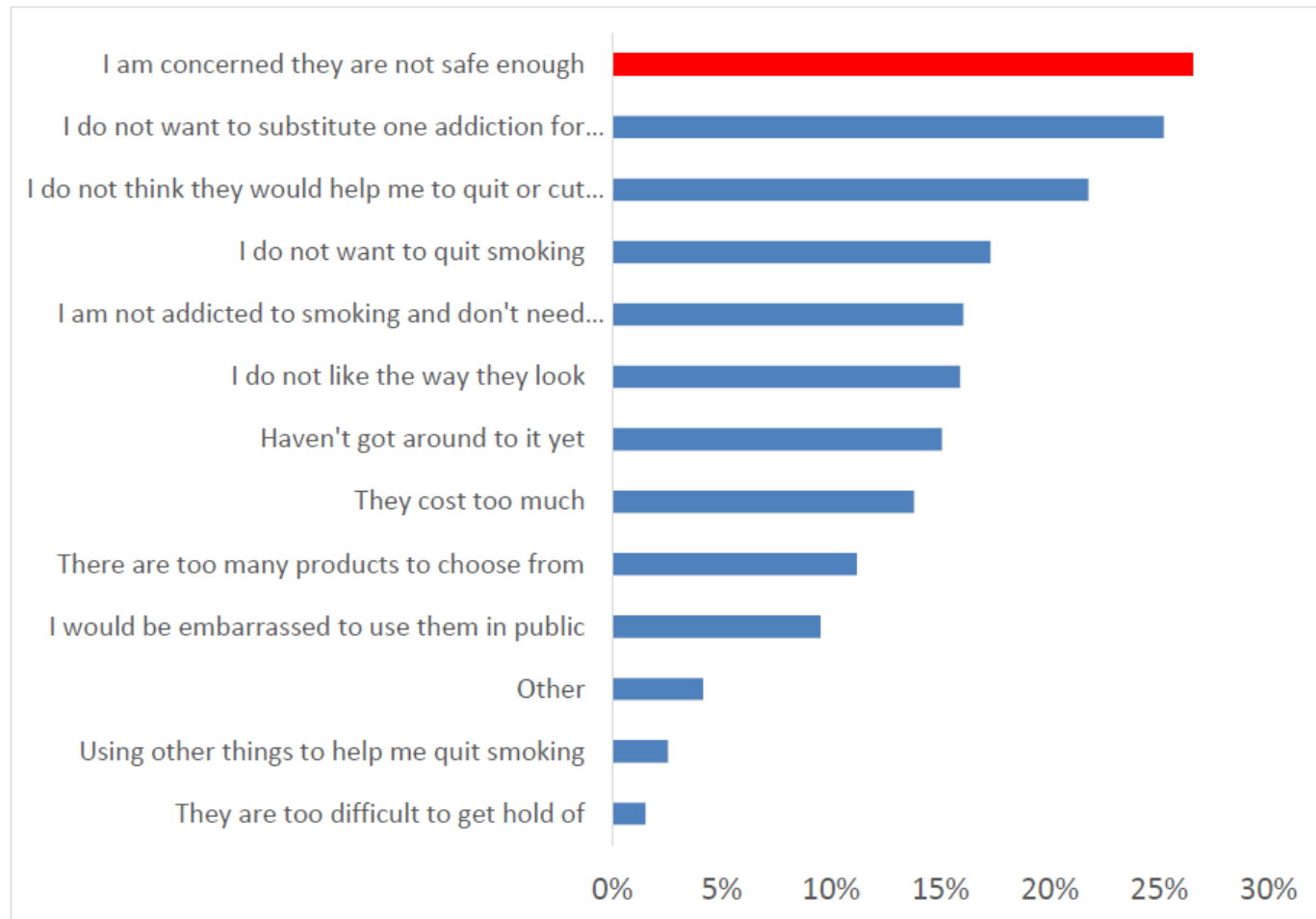
(ASH smokefree youth, 2013-15)



Eastwood B, Dockrell M, Arnott D, Britton J, Cheeseman H, Jarvis M, McNeill A . *Public Health*, 2015

Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

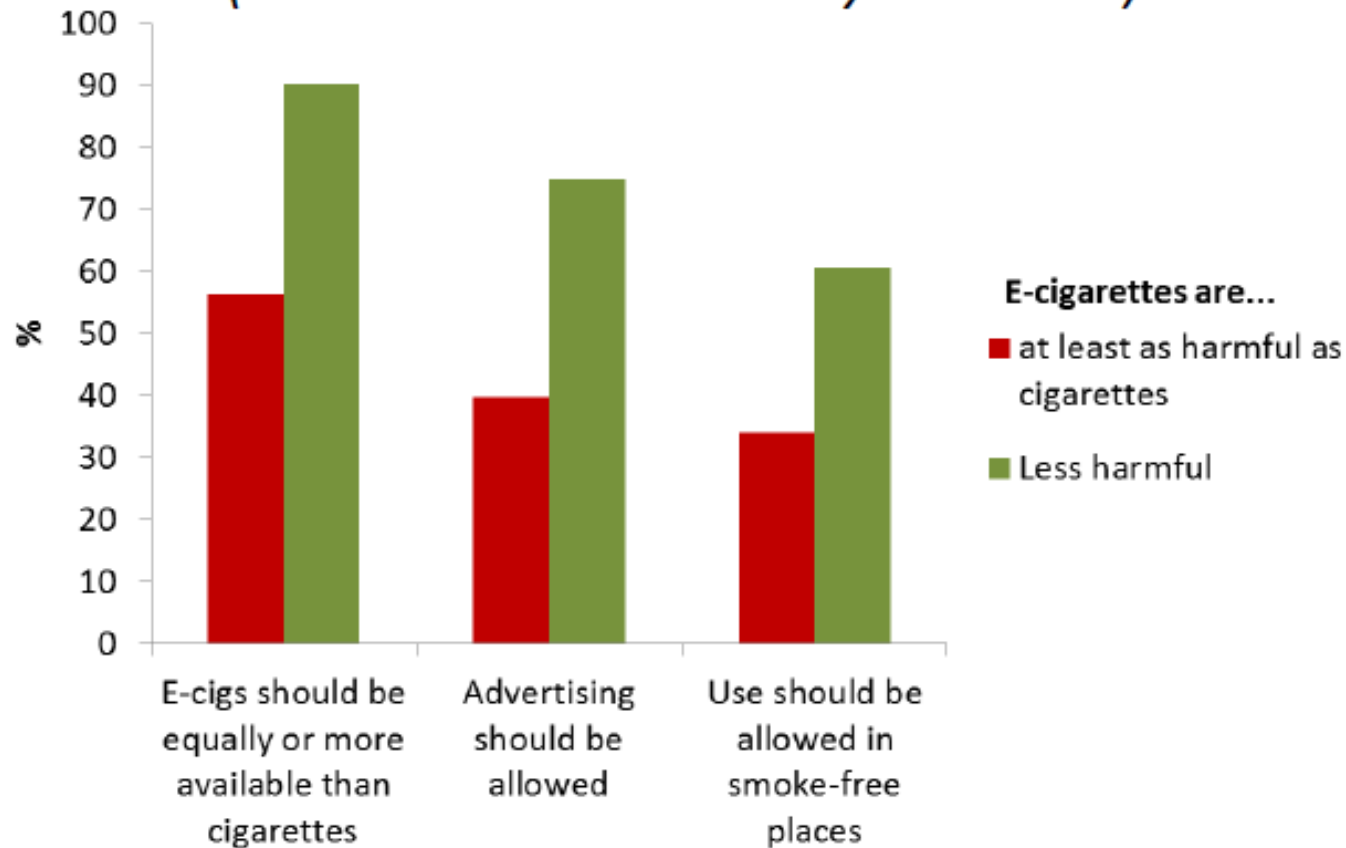
Reasons for not trying e-cigs among those never tried *(ASH smokefree adult, 2016)*



Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

Harm perceptions linked to policy support

(Internet cohort survey 2012-14)



Brose LS, et al. *Tob Control* 2016;0:1–9. doi:10.1136/tobaccocontrol-2016-052987, online 16 June 2016

Slide from Prof Ann McNeill's presentation at the National Symposium: Electronic Cigarettes: A new era for tobacco harm reduction 2016

National Centre for Smoking Cessation and Training (NCSCT)

Stop smoking services: maximising the opportunities that e-cigarettes provide

Dr Andy McEwen
Executive Director



Evidence briefings

Electronic cigarettes



NCSC

Electronic cigarettes:

A briefing for stop smoking services



NCSC

NCSC

Recommendations for practice

1. Be open to e-cigarette use in people keen to try them
2. Provide advice consistent with the latest evidence
3. Behavioural support by a trained stop smoking practitioner will improve chances of success of those quitting with e-cigarettes – and these clients can be included in monitoring returns
4. E-cigarettes can be used safely in conjunction with NRT

What is an e-cigarette friendly service?

- Don't be anxious about not being an expert
- Be positive when speaking about e-cigarettes
- Don't push people to stop using their devices
- No need to be alarmed by recreational nicotine use
- Look forward to celebrating success with clients using e-cigarettes to quit

Summary

- 4.5M people in England will die early from smoking if nothing changes
- Our 'Smoking Cessation Services' are the best in the world
- E-cigs are a fraction of the risk compared to smoking tobacco (<5%)
- Smokers should try e-cigs, dual users should quit smoking ASAP
- Public perceptions about the relative risks of e-cigarettes and smoking have become increasingly inaccurate
- E-cigarette experimentation among youth is occurring but regular use very low particularly among never smokers (less than 1%)
- Don't be anxious about not being an expert, be open to e-cigarette use and be positive when talking about them
- Keep it touch with the evidence base as it emerges – we will help you.

Where to go for more information...

- [PHE 2014 evidence reviews: Electronic Cigarettes and E-cigarette uptake and marketing](#)
- [PHE 2015 evidence review: E-cigarettes: an evidence update](#) (the 'authors' note setting out the background for the 95% less harmful estimate and the 'firm foundations for evidence-based policy and practice' can also be accessed from this page)
- [PHE consensus statements – September 2015 and July 2016](#)
- [RCP 2016 report: Nicotine without smoke: Tobacco harm reduction](#)
- [PHE advice on the use of e-cigarettes in public places and workplaces](#) (the main doc and the one-page 'five point guide' can be accessed from this webpage)
- [NCSCT briefing on e-cigarettes for stop smoking practitioners](#)
- Smoking in Pregnancy Challenge Group [Use of electronic cigarettes in pregnancy: a guide for midwives and other healthcare professionals](#)
- ROSPA, CFOA et al, with support from PHE: [Use of e-cigarettes \(vaping\) in the home: advice for parents](#)
- ASH [Use of electronic cigarettes \(vaporisers\) among adults in Great Britain 2016](#)
- ASH [Use of Electronic Cigarettes among Children in Great Britain 2016](#)
- [Smoking Toolkit Study – monthly tracking statistics](#)
- [NHS Choices content on e-cigarettes](#)
- [NHS Smokefree content on e-cigarettes](#)
- [PHE 'Public Health Matters' Blog - a commentary on the Public Health Response to e-cigarettes](#)
- [PHE 'Public Health Matters' Blog - e-cigarettes and harm reduction](#)