



Global Forum on Nicotine

Warsaw 2016

A report for the Tobacco Harm Reduction Association of Canada.

Part 1 / Day 1.

The Global Forum on Nicotine (GFN) was held at the Marriott Hotel, in Warsaw, on Friday 17th and Saturday 18th June 2016. The Tobacco Harm Reduction Association of Canada (THRA) was represented at this conference.

The theme of this year's conference was, 'Evidence, Accountability and Transparency.'

The message was delivered by an impressive line-up of international speakers.



"A Billion Lives"

Topics:

- ✚ The power of non-nicotine factors in the habitual use of nicotine products. Dr Brian Carter
- ✚ Compensatory puffing behaviours in e-cigarette users: blood nicotine delivery and subjective effects. Dr Lynne Dawkins
- ✚ E-cigarettes for patients with poor mental health: a journey. Louise Ross
- ✚ Electronic Cigarettes: Gateway or Roadblock to Cigarette Smoking? Neil McKeganey
- ✚ Research on electronic cigarettes in Poland. Professor Andrzej Sobczak
- ✚ Characterisation of the dynamic properties of exhaled aerosol particles following use of electronic and conventional cigarettes. Professor Dainius Martuzevicius
- ✚ Perceptual and experiential factors explaining how 4,235 individuals initiated and established e-cigarette use in place of cigarette smoking. Dr Christopher Russell
- ✚ Safety and toxicology of e-cigarettes. Dr Konstantinos Farsalinos
- ✚ Asking the right questions about smoking and alternative nicotine delivery systems. Professor Linda Bauld
- ✚ Population impact of e-cigarettes: recent evidence from the UK. Ann McNeill
- ✚ Population impacts of snus – tobacco initiation and cessation. Professor Karl Lund
- ✚ Disharmony in the Implementation of the European Tobacco Products Directive. Barnaby Page
- ✚ Unaccountable and Non-transparent: Is the FCTC a threat to public health? Julian Morris
- ✚ 'Not Blowing Smoke' - the fight against misleading messages. Stefan Didak
- ✚ What would good regulation look like? Clive Bates
- ✚ The e-cigarette environment in Australia. Barriers to and prospects for harm reduction. Dr Colin Mendelsohn
- ✚ Developing a united front for consumers to public health authorities in Asia-Pacific - challenges and opportunities. John Boley
- ✚ Nicotinists, smokers, and gateway puzzles: evidence from representative national surveys in Poland - 2014-2016. Jerzy Jurczyński
- ✚ Who took harm reduction out of the FCTC? A Swedish perspective on snus. Atakan Befrits
- ✚ Doctors for healthy drug policies: lessons from drugs harm reduction and drug policy reform. Chris Ford
- ✚ Are vaping advocates throwing smokers under the bus by making alliances with public health? Luc Van Daele
- ✚ E-cigarettes health potential: Current evidence and future areas of exploration. Professor Riccardo Polosa

The power of non-nicotine factors in the habitual use of nicotine products.

Dr Brian Carter

Dr. Brian Carter is the Director of Scientific Communications for the Consumer Advocates for Smoke-free Alternatives (CASAA). Trained as a clinical psychologist, Dr. Carter's field of study is addictive behaviour, with a focus on the pharmacological, psychological, and behavioural foundations of tobacco and nicotine use, dependence, and motivation. As a faculty member in the Department of Behavioural Science at the University of Texas M.D. Anderson Cancer Center, he conducted multiple National Cancer Institute funded laboratory studies on nicotine use in cigarette smokers. He has widely published his findings in academic journals and has presented at numerous national and international scientific conferences. (<https://qfn.net.co/programme-2016/speakers-2016>)

Dr. Carter began, "As a psychologist, I'm trained to be suspicious of simple explanations for complex human behaviour. One, is that tobacco use is almost exclusively driven by the psychoactive properties of nicotine."

He pointed out the accepted wisdom that nicotine is the ingredient which holds the smoker in thrall. However, he pointed out that, "When divorced from tobacco and the methods used to consume it, and given to people as a drug, it performs poorly as a motivating substance."

"Gee, I think it was crack . . . but it might have been nothing."

This humorous comment was used to highlight the fact that during research smokers had great difficulty in discerning between nicotine and placebo. When placed in the context of some 'hard' drugs, the sublime; the claim that nicotine is highly addictive, becomes the ridiculous.

Dr. Carter went on to demonstrate that although the typically accepted addictive qualities of nicotine, on its own, are highly dubious, it does have its attractions: Things that some tend to dismiss as not being very important.

He listed some of the enjoyable features of smoking:

- Aroma and taste.
- The sensation of inhalation.
- The sight of the "lovely sinuous clouds."
- The opportunity to hang out with other smokers, which often has positive social aspects.
- Smoking provides multiple occasions for some regular deep breaths, something psychologists teach people as a relaxation technique.

And he stressed that these things are very important.

He also explained the role of 'automized behaviours.'

He used the following to exemplify this type of behaviour.

Count the number of words BUT DO NOT READ

I told you not to read this.

And that is automatized behaviour.

Reading is so automatized you can't stop yourself from doing it. Automatized behaviours have the following characteristics: They're...

- fast,
- efficient,
- seemingly effortless,
- require little cognitive demand,
- largely occur outside of awareness,
- and they're stimulus bound.

Dr. Carter explained how these features are part of the daily routine of the smoker... smoking is connected to everyday activities: finishing a meal; having drink; sex. Then there are the subtler stimuli: thinking things over; dealing with frustration; simple boredom.

So when something abruptly stops your routine: When you stop smoking...

"You're forced to revert to non-automatized behaviours, which has the opposite characteristics. It slows you down, it's effortful, it's clumsy, it's uncomfortable, it takes a great deal of cognitive effort and consumes your concentration, you feel off, you feel odd.

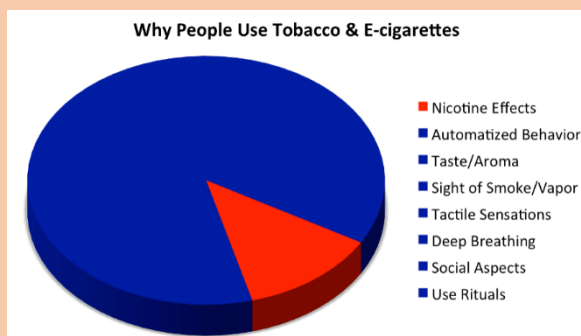
And, it's relentless because you still have all those cues coming at you, putting in motion those very automatized routines you're trying to stop."

Now, is that not a rational explanation in the face of the evidence that nicotine, on its own, is not particularly addictive?

"Constantly fighting to block automatized behaviours is enough to make someone depressed, anxious, irritable, and, of course, strongly want to smoke.

We call this experience "nicotine withdrawal." But we know how poorly nicotine as a drug relieves these symptoms compared having a cigarette."

This was followed up with an explanation as to why e-cigarettes are an effective smoking cessation tool.



"Nicotine's playing a role, but without being combined with these factors in blue it can't seem to get much traction. Conceptually, most of us have nicotine squarely in the driver's seat. But maybe, it's actually somewhere in the back seat."

All slides:

All slides: (<https://gfn.net.co/downloads/2016/Brian%20Carter.pdf>)

Compensatory puffing behaviours in e-cigarette users: blood nicotine delivery and subjective effects.

Dr Lynne Dawkins

Dr Lynne Dawkins is an Associate Professor of Psychology in the Addictions Unit at London South Bank University. She has twenty years' experience of working with smokers in research contexts and, more recently, with novice and experienced e-cigarette users. Dr Dawkins is one of the UK's leading authorities on e-cigarettes having published papers on their utilisation, effects, and nicotine delivery. She has disseminated her findings widely via academic conference, public lectures and online media. (<https://gfn.net.co/programme-2016/speakers-2016>)

This discussion has increasingly important ramifications in the light of the news that the CDC are 'encouraging the concept of low nicotine cigarettes.

The important observation for me was that people who smoke will compensate for reduced nicotine intake by increasing the amount of smoke they take in. They do this through a series of different mechanisms: longer, harder drags and more frequent puffs, so switching to 'light' or reduced nicotine containing cigs doesn't appear to reduce toxicant exposure and may even increase it.

Dr Dawkins pointed out that the Tobacco Products Directive (TPD) from the EU restricts nicotine to a maximum of 20mg per mil. and yet 9% of vapers use above this level – of even greater concern is the fact that one fifth of vapers start at the maximum level.

Dr Dawkins spoke about the extent to which e-cigarette users self-titrate when given lower nicotine concentration liquids. She also looked at subjective effects (craving, withdrawal symptoms, positive and negative effects) and plasma nicotine concentrations between conditions (high vs. low nicotine concentration liquid).

The procedure was as set out in the Fig 1.

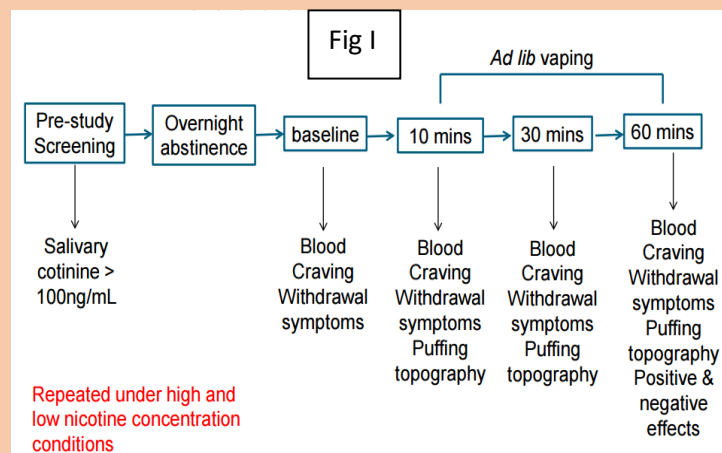
The enquiry resulted in more puffs, longer puffs and more liquid consumed in the low (6mg/mL) condition. An interesting result was that No significant differences between conditions in urge to vape or withdrawal symptoms were found.

The conclusions were that there was:

clear evidence of compensatory puffing with lower nicotine concentration e-liquid; Self-titration was partially effective; equivalent reduction in urge to vape and withdrawal symptoms across condition; but significantly higher levels of blood nicotine in the high condition; Very high levels of nicotine can be achieved very quickly (equivalent to smoking) under certain conditions

Dr Dawkins concluded by pointing out the implications of the study.

- Self-titration – another attractive feature of vaping?
- More e-liquid consumed = higher cost
- Advise smokers to use a higher nicotine strength liquid?



- Limiting nicotine concentrations in e-liquid (TPD; May 2016) not necessarily the best option.
- Blood nicotine levels akin to smoking may improve smoking cessation rates but prolong nicotine addiction

What I find particularly interesting is the apparent paradox between the findings of Dr Dawkins and the previous speaker, Dr Carter.

Is nicotine responsible for 'addiction' to smoking or is it something else?

It is clear that nicotine has an effect, but what exactly is the role of this substance in continued cigarette smoking, and indeed, in vaping? These questions 'niggled' at the back of my brain having heard one viewpoint so closely followed by the second.

But it is not a contradiction at all. There is something missing with lower nicotine levels: Aroma and taste; The sensation of inhalation – that throat hit and the satisfying completion of the inhalation. These things are all important to the smoker and the vaper and without them the experience lacks two of the most important ingredients.

The implicit warning in all of this, to my mind at least, is that in order to achieve **complete** satisfaction with lower concentrations of nicotine, one has to absorb more smoke or, in the case of e cigarettes, more vapour, and, with cigarettes – more tar; more of that 'gunk' which will cause real harm. This being the case I repeat what went before...



All slides (<https://gfn.net.co/downloads/2016/Lynne%20Dawkins.pdf>)

Tobacco Heating System (THS) 2.2, a candidate modified risk tobacco product: cardiovascular disease risk assessment.

Dr Moira Gilchrist

Moira Gilchrist works in Regulatory and Scientific Affairs at PMI. Responsible for driving company strategy to transparently and comprehensively communicate PMI’s Reduced Risk Product (RRP) science to stakeholders in the scientific, public health and regulatory communities. She’s currently working on tools and techniques to improve access to our science so that relevant stakeholders can make their own judgement on our approach and results. Her works are published in the websites of many different organizations including E-Cig Europe Conference, FDLI Annual Conference or Society for Research on Nicotine and Tobacco. She received her PhD in Pharmaceutical Sciences from the University of Strathclyde. <https://gfn.net.co/programme-2016/speakers-2016> (<https://gfn.net.co/programme-2016/speakers-2016>)

Oh how refreshing! When compared to the COP6 meeting which was held behind locked doors and with an audience who had already signalled that they were in agreement of the stated principles of Tobacco Control. Here in Warsaw, at the GFN, we have a representative from Phillip Morris. And why not? (I think it is called transparency)

The tobacco companies are all too well aware of the reputation they enjoy in the world. But two things to consider: because of their poor reputation, the research the tobacco industry conducts, in order to be accepted, has to be immaculate; It has to clear all of the hurdles that scientific scrutiny can set up. Add to this, the simple fact that the tobacco industry has, in the past, done what any other industry in its position would have done in order to exist. The food industry – do they misinform? Does banking misinform? And spare a thought for the really bad boys, the pharmaceutical industry.

So, at the GFN Dr Gilchrist could take the stage without fear of fervour and as an equal among peers – and quite right too.

Dr Gilchrist discussed what are known as reduced Risk Products (RRP's) She introduced her presentation by making the following statement...

“Reduced-Risk Products (“RRPs”) is the term PMI uses to refer to products with the potential to reduce individual risk and population harm in comparison to smoking cigarettes.

PMI's RRP's are in various stages of development and commercialization outside the United States in a number of countries, and we are conducting extensive and rigorous scientific studies to determine whether we can support claims for such products of reduced exposure to harmful and potentially harmful constituents in smoke, and ultimately claims of reduced disease risk, when compared to smoking cigarettes.

Before making any such claims, we will rigorously evaluate the full set of data from the relevant scientific studies to determine whether they substantiate reduced exposure or risk.

Any such claims may also be subject to government review and authorization, as is the case in the United States today.”

There can be no doubt that smoking is a major factor in the incidence of Cardiovascular Disease and

Stroke. (What follows is not part of Dr Gilchrist's presentation) I am less comfortable with the claim that almost one third of deaths of Coronary Heart Disease are attributable to smoking and second-hand smoke exposure, if for no other reason than Dr Gilchrist uses the American Heart Association as the source. You will have, I hope, noted my comment above

Study: E-cigarettes don't help smokers quit

By AMERICAN HEART ASSOCIATION NEWS



Adult smokers who use electronic cigarettes are less likely to stop smoking conventional cigarettes, according to a new study. That's despite e-cigarettes being marketed as an effective stop-smoking method.

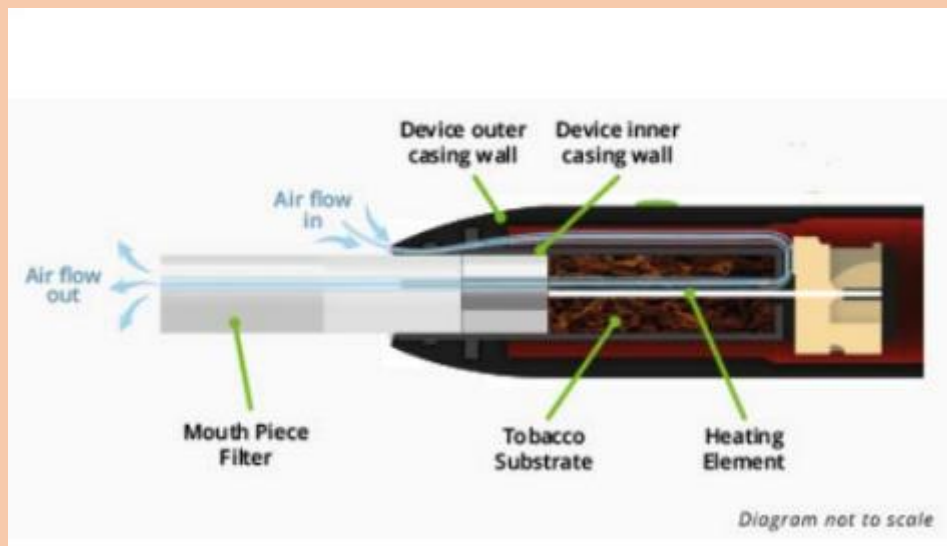
Researchers reported in *The Lancet Respiratory Medicine* that smokers who used e-cigarettes were 28 percent less likely to quit smoking cigarettes than smokers who didn't use e-cigarettes. The researchers analyzed results from dozens of published studies.

"E-cigarettes should not be recommended as effective smoking cessation aids until there is evidence that, as promoted and used, they assist smoking cessation," the study's first author Sara Kalkhoran, M.D., said in a news release. Kalkhoran conducted the research as a clinical fellow at the University of California, San Francisco School of Medicine and is now at Harvard Medical School in Boston.

which accuses the pharmaceutical industry of being, 'the really bad boys.' Well, the American Heart Association is a fully paid up member of the 'really bad boys' club:' (As you can see from the illustration above, and the lie requires no explanation).

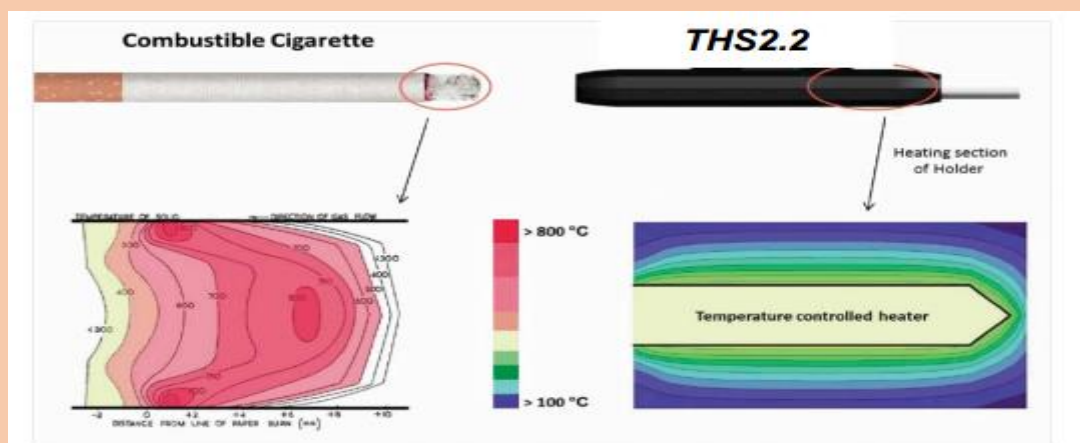
Back to the presentation: Dr Gilchrist emphasised that the primary problem with smoking was combustion, not nicotine. She stated that it is estimated that more than 1 billion people will continue to smoke for the foreseeable future and that successful harm reduction requires a range of scientifically substantiated, non-combustible, reduced-risk products that are acceptable to current adult smokers who do not quit as alternatives to cigarettes.

With the aid of slides, she demonstrated what these products are and how they work. (THS2.2, commercialized as iQOS in several countries)



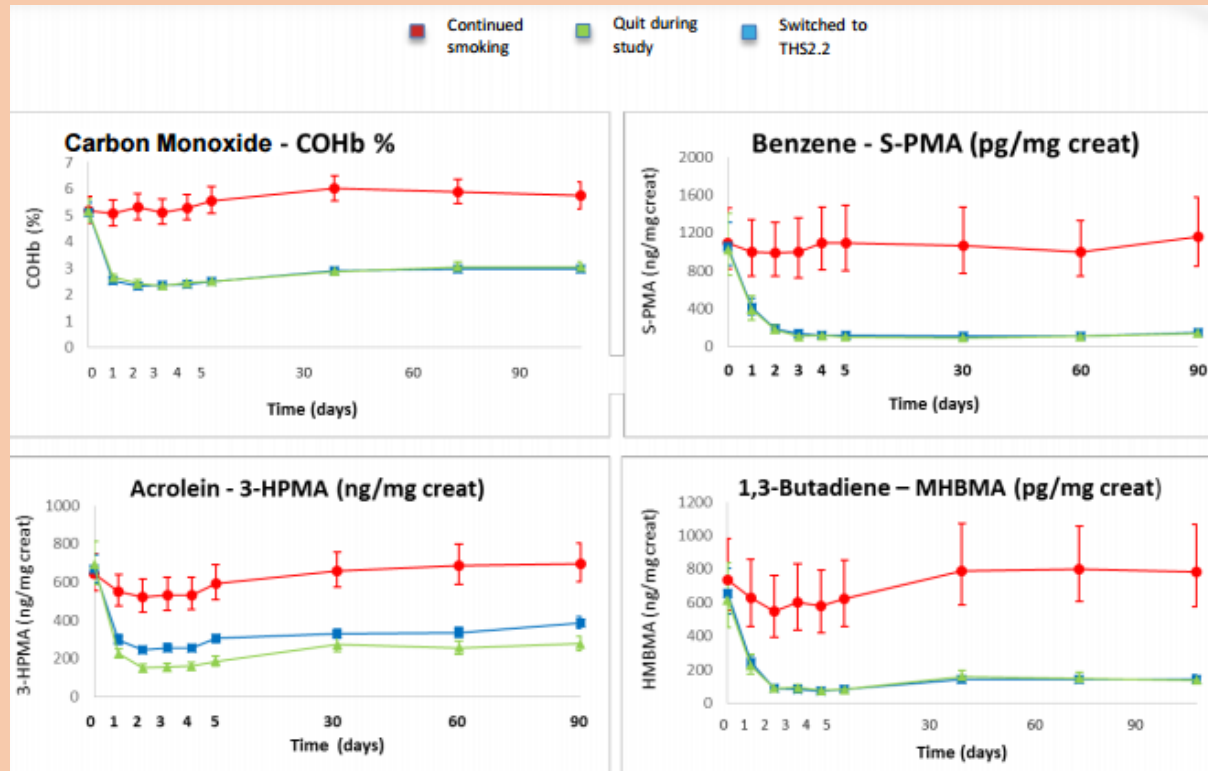
They are designed to heat tobacco without combustion: Significantly reduce or eliminate the formation of harmful and potentially harmful compounds and preserve elements of the taste, sensory experience, nicotine delivery profile and ritual characteristics of cigarettes – they are in so many ways similar to e-cigarettes.

An interesting feature was the comparison of heat profiles between a cigarette and an RRP.



The main point of the presentation was that THS2.2 produces less harmful substances and that clinical studies in smokers demonstrate reduced exposure.

Adult smokers were randomised to cigarettes or THS2.2 and were allowed to smoke / use as much as they wanted in confinement (5 days) and then ambulatory (85 days).

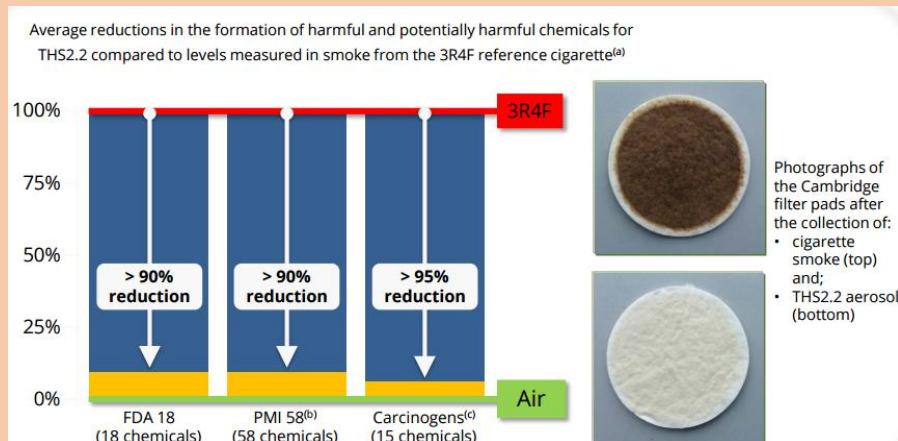


Though these data alone do not represent a claim of reduced risk it was pointed out that state-of-the-art in vivo laboratory models, developed to predict cardiovascular disease risk, also demonstrate that switching to THS2.2 from cigarette smoke reduces levels of cardiovascular disease risk markers to levels similar to smoking cessation, the gold standard* for disease risk reduction.

Disease Mechanisms	Expected Direction of Change	Effect of Cessation	Effect of Switching to THS2.2	Direction of Change
Lipid Metabolism (HDL-C)	Increase	6.4 mg/dL ↑	4.5 mg/dL ↑	Same direction as cessation
Inflammation (WBC)	Decrease	-0.40 $10^9/L$ ↓	-0.57 $10^9/L$ ↓	Same direction as cessation
Endothelial Dysfunction (sICAM-1)	Decrease	10.9 % ↓	8.7 % ↓	Same direction as cessation
Oxidative Stress (8-epi-PGF _{2α})	Decrease	5.9 % ↓	12.7 % ↓	Same direction as cessation
Clotting (11-DTX-B ₂)	Decrease	19.4 % ↓	9.0 % ↓	Same direction as cessation

In 3-month clinical studies in Japan and the US, THS2.2 provided similar levels of smoking satisfaction as the participants' own cigarette. Commercialization results confirm product acceptability. In Japan

at least 100,000 smokers have switched to THS2.2 (commercialized as iQOS), representing a full conversion rate of 48%.



The data indicate that THS2.2 has the potential to provide a risk reduction benefit for adult smokers relative to the status quo – continued smoking: Levels of exposure to harmful or potentially harmful compounds when smokers switch to THS2.2 approach the levels observed in those who quit smoking during the study;

THS2.2 aerosol is over 10 times less active than reference cigarette smoke in key mechanisms associated with cardiovascular disease; switching to THS2.2 from cigarettes produces favourable changes in endpoints related to cardiovascular disease, achieving the majority of the effects that were seen in smoking cessation;

THS2.2 provided similar levels of smoking satisfaction as the participants own cigarette.

The totality-of-the-evidence collected relating to THS2.2 to-date is very encouraging. PMI intend to submit a Modified Risk Tobacco Product Application to the U.S. FDA by the end of 2016.

Dr Gilchrist pointed to independent verification of PMI's results:

All slides: <https://gfn.net.co/downloads/2016/Moira%20Gilchrist%20.pdf>

E-cigarettes for patients with poor mental health: a journey.

Louise Ross

Louise Ross is the Stop Smoking service manager for Leicester City, working for Leicester City Council while maintaining strong links with all NHS bodies in the area. She has worked in smoking cessation and tobacco control for over ten years. Previously she had managed a large care home for people with learning disabilities for almost 30 years, and this career change, an opportunity that disproves the theory that one needs a life-plan to be happy, has been a fantastic opportunity to influence people's health for the better.

Initially suspicious of e-cigs, since 2013 she became a committed advocate of listening to what the general public, and Stop Smoking service users in particular, are saying about their experiences of vaping.

<https://gfn.net.co/programme-2016/speakers-2016>

(This is the easy one... All I have to do is show the presentation slides.)

All slides: <https://gfn.net.co/downloads/2016/Louise%20Ross.pdf>

The importance of getting the right people to listen



- Executive team
- Clinical leaders
- Pharmacy
- Training leads
- Communications
- Fire officer
- Health & Safety
- Ward staff
- Human Resources



What did patients think?
'I want to stop smoking, and I want to use an ecig to do it'

So many objections

- Poisoning
- Self-harm
- Harm to others
- Electrocution!
- Fire risk
- Setting off smoke detectors
- Cross-contamination
- Use as a weapon
- Slipping on spilt liquid



The need for empathy

'Denying a smoker a nicotine substitute is like denying pain-relief to a person in pain'

From a slide inserted into a training programme dealing with aggression

Patients are let down when non-smoking staff don't get how hard it is, and when staff who smoke undermine their determination to stop smoking.

The answer was e-burn

- Designed for use in prisons
- Lots of security features
- Hard to use as a weapon
- Disposable (no recharging)
- Cheap
- Underpowered but appeared popular with patients
- **Approved of by staff**

When I first met Louise she told me, and showed me, the 'e-burn,' an e cigarette designed for use in security situations. I break off from Louis's presentation to show you the device...



Manufacturers statement: (Please note: e-burn is INDEPENDENT and is NOT controlled or connected to any tobacco company).

This is important because Under Article 5.3 of the Framework Convention for Tobacco Control, Local, National and International Governments or Companies that

hold interest not to work with any organisation or provider with an association with a Tobacco Company. Auditable compliance will be achieved by purchasing from e-burn.

The manufacturer also states: "An independent Government report from within the British Isle's, clearly shows e-burn High Security Electronic Cigarettes do not contain any known harmful substances following the analysis on the e-liquid. The report also showed that the e-burn patent pending security features are the most appropriate for the prison environment, especially over generic e-cigs that can be purchased from local retailers. Our security features prevents the device from being used to administer NPS (Spice) or other psychoactive drugs that are causing an increasing number of violent incidents in prisons as reported in the Independent Newspaper 17/01/2015."

Back to the slides...



The magic words: 'service-led'

- Allows for the needs of individual patient groups, such as frail and elderly patients
- Doesn't force an absolute rule, which would inevitably be restrictive
- Enables gathering of experience and revision of original plans

A public sector/independent sector collaboration

The Supply Chain: adding value

'Freedom walks' to the vending machine

- Who would supply
- How could they get access
- Who would approve
- What would the cost be
- What safeguards had to be put in place



Added benefits

It's not just about reducing the smoking risk.
 Psychotropic medications work better, at lower doses, once the patient stops smoking.
 It's not about the nicotine, it's about the SMOKE
 Reducing meds leaves the patient more alert, more active, more 'in the world' and less likely to gain weight.

Early days, future hope

- Never give up
- Find solutions for other people
- You may lose a battle but you can still win the war
- Keep patients at the centre of everything you do





Well that was easy... Back to work.

Electronic Cigarettes: Gateway or Roadblock to Cigarette Smoking?

Neil McKeganey

Neil McKeganey is the founding director of the Centre for Drug Misuse Research at the University of Glasgow which he directed from 1994 to 2011. He now runs the Centre as an independent research group undertaking studies in a wide range of areas related to the use of illegal drugs:

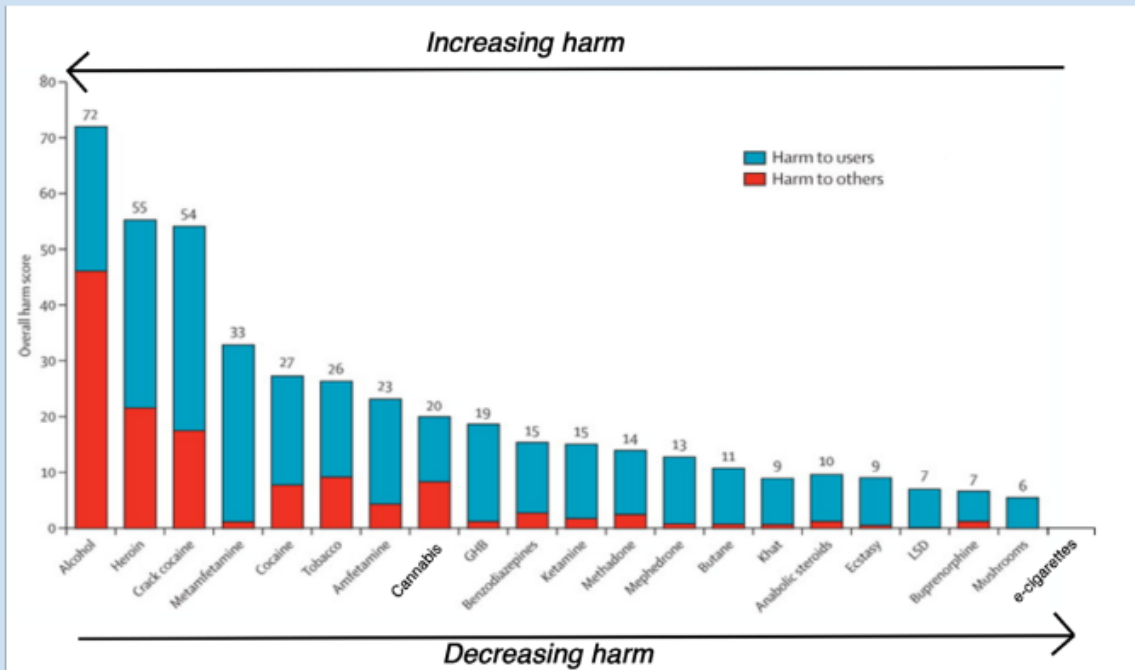
www.drugmisuseresearch.org – He has written over 150 academic articles and is the author of “Controversies in Drugs Policy and Practice” (Palgrave 2011).

He is a sociologist by training and has undertaken research himself in such areas as the evaluation of drug treatment services, the nature and impact of drug policy, young people and illegal drugs, the impact of parental drug use on children, the link between drugs, crime and prostitution and the impact of drug enforcement activities. (<https://qfn.net.co/programme-2016/speakers-2016>)

The gateway effect: How often are we to listen to others telling us that e-cigarette use will lead to smoking cigarettes?

The presentation began with a description of the importance of the regulators perception of gateway in the formulation of regulation. It sits alongside that of toxicity in the ranking of importance.

Ranking of Drug Harm (Nutt et al)



Before moving to the responses of the young people interviewed, the relative harm presented by e cigarettes was pointed out.

He then highlighted the 'flurry' of media attention to claims that there was indeed a gateway effect: that people were being introduced into smoking via e-cigarette use. Young people, non-smokers & non-vapers, were consulted about their views on vaping and in particular the extent to which the visibility of vaping may have impacted upon their views of smoking. Is the public visibility of vaping changing people's perceptions?

The gateway effect is one of the most important and one of the most controversial concepts in addiction science. Yet, people are unclear whether the gateway effect has to do with the drug, whether it is the person, or the environment in which the drug is being used.

Gateway Effect

- One of the fundamental concepts in drug use research
- Widely discussed
- Controversial- is it a description of the social patterning of drug use or a causal explanation of the evolution from initiation to the development of a complex drug using repertoire?
- What is the mechanism(s) through which a gateway effect may be occurring i.e. is it the drug, the brain, or is it the environment, or combinations of these.
- What drugs can be said to be having a gateway effect: marijuana, tobacco, alcohol.
- Are e-cigarettes acting as a gateway to smoking?
- What are the policy and regulatory priorities that flow from the gateway effect?

The results of the interview were very revealing. One thing is for sure, **young people are not perceiving e-cigarettes as an entry point to smoking, and indeed, when asked, some replied that without e-cigarettes they would be smoking.**

The young people we were interviewing saw vaping and smoking as being associated with very different harms and whilst some were focussed on nicotine others were more focussed on flavours and plumes. The predominant view was that vaping had made smoking less likely not more likely and it had not for the most part re-normalised smoking. The transition from vaping to smoking would involve the individual in engaging in a form of drug use (smoking) which was accepted as being substantially more harmful and dissimilar to the form of drug use (vaping) in which they were presently engaging

Vaping Making Smoking More Popular

- I: Do you think vaping has made smoking more acceptable or less acceptable?
- R: I think less acceptable if anything because there's an alternative now to smoking cigarettes so in that way I think maybe the opposite.

Roadblock to Smoking

- I: I feel bad when I have a cigarette now ..I feel un-healthy..I feel I'm putting chemicals and cancer and stuff in my body whereas like before I didn't really care, its just made me more aware of it.
- R: Are you say that it has changed how you see smoking?
- I: Yea because when we did smoke before we didn't really care much, but now I wouldn't smoke anymore because I can just do that (vape) now.
- I: Do you think you are further away from the possibility of smoking now
- R: Yea miles
- I: What would happen if you couldn't vape?
- R: I'd probably smoke to be honest..

All slides: <https://gfn.net.co/downloads/2016/Neil%20McKeganey.pdf>

Andrzej Sobczak

Prof Andrzej Sobczak, head of the Department of General and Inorganic Chemistry at Medical University of Silesia and head of the Department of Chemical Hazards and Genetic Toxicology at the Institute of Occupational Medicine and Environmental Health in Sosnowiec in Poland. Prof Sobczak has been focusing on the toxicology of tobacco smoke for many years. Growing popularity of e-cigarettes led him to investigate these devices.

(<https://gfn.net.co/programme-2016/speakers-2016>)

Prof Sobczak delivered a highly technical presentation, as such, I had some difficulty following the detail of what was said.

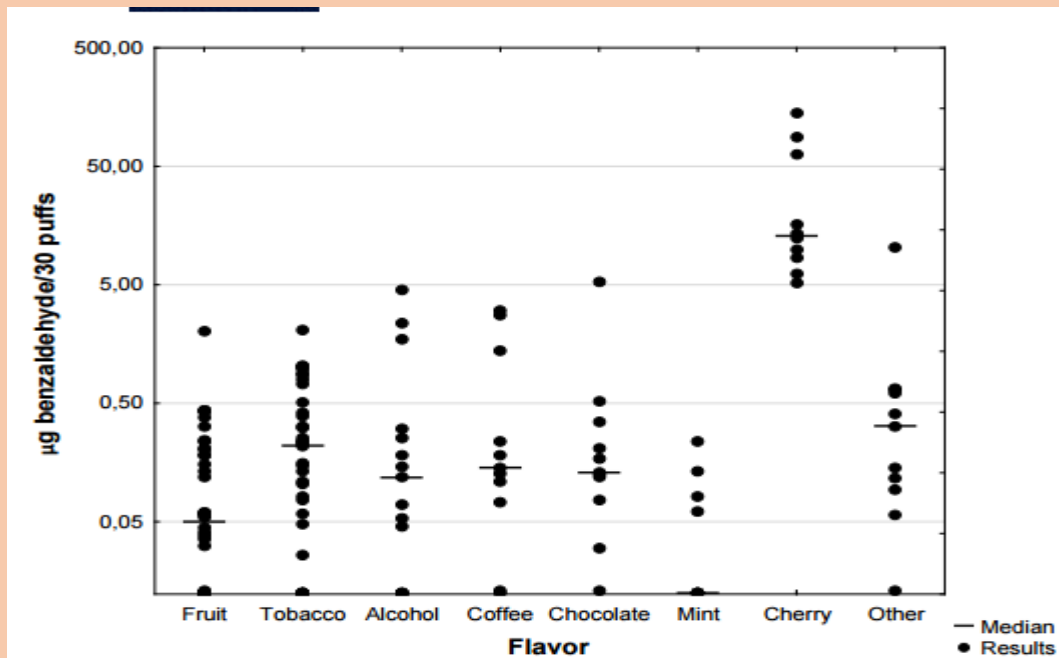
The presentation itself dealt with a number of topics arising out of his research. Using a Goniewicz (Tobacco Control) study, he discussed a range of levels of toxicants found in tobacco smoke and vapour. These were: Formaldehyde; Acetaldehyde; Acrolein; Toluene; NNN; NNK; Cadmium & Lead. He also discussed Carbonyl compounds in EC vapours.

With all of the above, the comparative level found in e cigarette vapour was many times less, that found in cigarette smoke: Formaldehyde 9 times; Acetaldehyde 450 times; Acrolein 15 times; Toluene 120 times; NNN 380 times; NNK 40 times; Cadmium 3,300 times, & Lead 600 times. So, far safer than smoking but without an indication of what (considered) 'safe' levels actually are – not particularly helpful.

One substance found by a team including Prof Sobczak and published in the official journal of the British Thoracic Society, 'Thorax,' was, Benzaldehyde and it had been detected in 108 out of 145 examined products.

Scary stuff!

The benzaldehyde doses inhaled were often higher than doses inhaled from cigarettes.



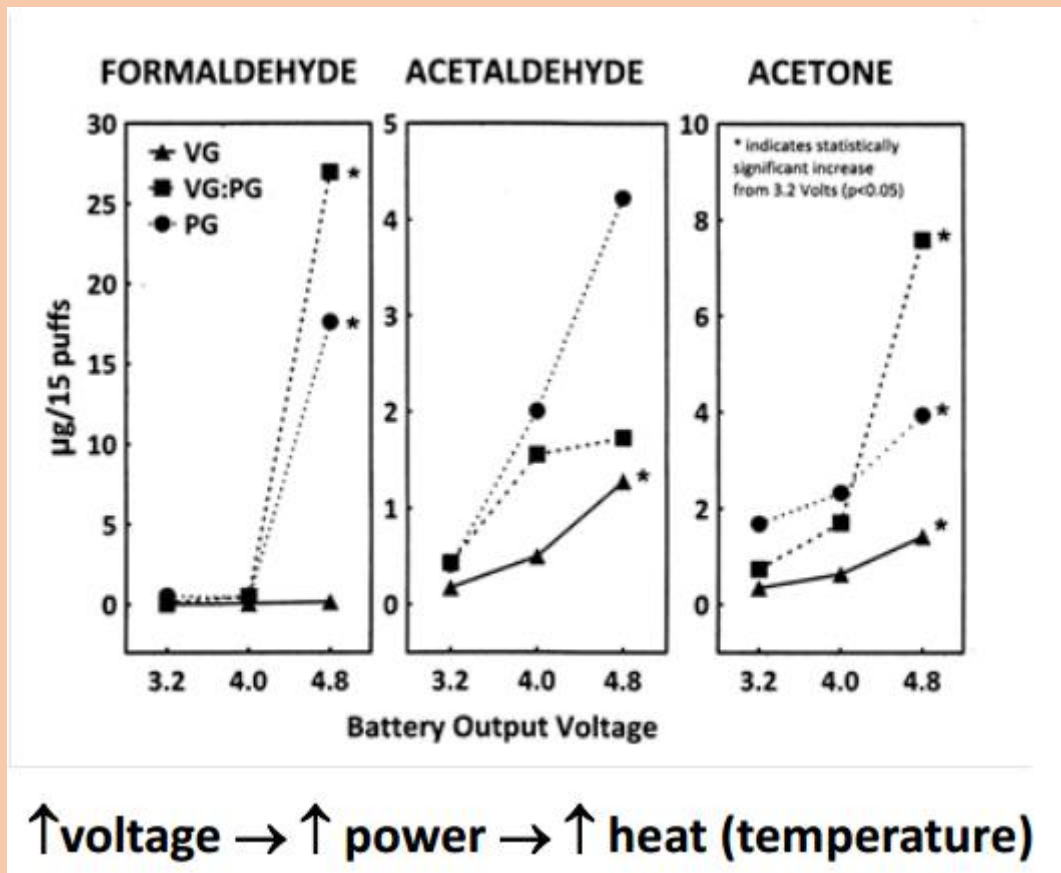
This was particularly true of certain flavours, the worst offender being cherry flavour.

However, Prof Sobczak pointed out and stressed, the estimated median daily inhaled dose from cherry-flavoured EC would be 100 times lower than PEL dose in the workplace.

Not so scary after all.

An interesting aspect of his presentation was his statement regarding the difference in solvent and battery output voltage on levels of carbonyl compounds in EC vapours. Increasing voltage from 3.2 to 4.8 V resulted in 4 to over 200 times increase in formaldehyde, acetaldehyde, and acetone levels

But he stressed that the health risk will still probably be lower in comparison with smoking.



All slides: (<https://gfn.net.co/downloads/2016/Andrzej%20Sobczak.pdf>)

His comments on second-hand exposure to e-cigarette vapour were very interesting.

He (and the team he worked with: Czogala J, Goniewicz ML, Fidelus M, Zielinska-Danch W, Travers MJ) had found that the average concentration of nicotine resulting from smoking tobacco cigarettes was 10 times higher than from EC. In contrast to cigarette smoking no carbon monoxide, and volatile organic compounds (in an exposure chamber) after used of EC were found

He also spoke about Electronic Cigarette Use Among Teenagers and Young Adults in Poland. However, the study included, "a single puff in the previous month." So I see no point in discussing this any further.

He concluded by pointing out that ECs are much safer than conventional cigarettes if we take into account toxicant levels in tobacco smoke and vapour: Using an e-cigarette in indoor environments may expose nonusers to low dose of nicotine but not to the tobacco-specific combustion products. Therefore, second-hand exposure from EC is much lower than from conventional cigarette; That there is a possible increase of ECs prevalence among adolescents. (Keep in mind, one puff)

Dainius Martuzevicius

Dainius Martuzevicius is an Associate Professor at the Department of Environmental Technology, Faculty of Chemical Technology, Kaunas University

of Technology. He teaches courses on air quality management, modelling, and pollution control technologies. He also serves as a Vice Dean for Research at the Faculty of Chemical Technology. The background on the research of air quality and aerosols was obtained during his stay as a visiting scientist in the, Center of Health-Related Aerosol Studies at the University of Cincinnati, Ohio, during 2002-2005. His research interests include measures for the improvement of indoor and outdoor air quality. Recently, he has coordinated Lithuanian actions in several major European and national research projects. He applies interdisciplinary knowledge on aerosols and air quality to solving of the microclimate issues in public and residential, low-energy and green buildings.
<https://qfn.net.co/programme-2016/speakers-2016>

Dainius Martuzevicius' contribution to the discussion on particles was extremely enlightening. He made a number of observations, listed below. His presentation was complex and so do not underestimate his contribution because of the simple way his findings have been presented here.

Findings:

- ✚ Particles exhaled after the use of e-cigarettes were in the range 100- 150 nm, and shrunk rapidly while being dispersed in the room.
- ✚ Conventional cigarette particles were larger (150-200 nm), and were not affected by the distance between the volunteer and the "dummy".
- ✚ Our results suggest that particles from e-cigarettes are mainly liquid droplets constituted of water. These particles evaporate very fast and disappear 10-15 seconds after the puff, transferring to the gaseous phase.
- ✚ On the contrary, particles from conventional cigarettes are tobacco combustion particles which more stable than those from e-cigarettes.

This rather dents the hysterical headlines and the danger e cigarette vapour is supposed to present to bystanders.

Dr Christopher Russell (Centre for Substance Use Research, UK)

Dr Christopher Russell is a psychologist working at the Centre for Drug Misuse Research, Glasgow, Scotland. Dr Russell has developed a significant number of studies in the area of nicotine science over the last two years including research on users' early experiences of e-cigarettes and perceived health risks and

benefits, modelling the effect of e-cigarettes on the health of smoking and non-smoking sub-populations, modelling the chronology of smoking and vaping initiation and quitting, systematic reviews of the health effects of co-occurring tobacco and cannabis smoking, and research assessing the evidence for the effectiveness of plain tobacco packaging in Australia. Dr Russell has also developed a 'Nicotine Science Toolbox', an online 'library' that provides researchers with guided access to a wide range of survey and questionnaire instruments for measuring cognitive and behavioural constructs known to influence individuals' decisions to start, stop and restart smoking and vaping.
<https://qfn.net.co/programme-2016/speakers-2016>

This presentation was entitled, "Vapers Helping Smokers to Quit: Vapers Telling Their Stories of How They Initiated and Established Vaping in Place of Smoking."

The most important element in the vaping debate?

The most reliable 'evidence'?

Closest to the truth about vaping?

He started by showing how popular vaping is in the UK. In 2015, 2.2 million people in Great Britain using an e-cigarette... Of whom, approximately 836,000 (38%) had switched completely away from smoking to vaping (Office for National Statistics, 2016). [But you will note that in the rapidly moving world of vapers and vaping, that the above figures are badly outdated – yes, even from 2016 – the number vaping now is 2.8 million]

He went on to point out that despite the impressive uptake of e-cigarette use, a huge number of smokers try them then go back to smoking cigarettes.

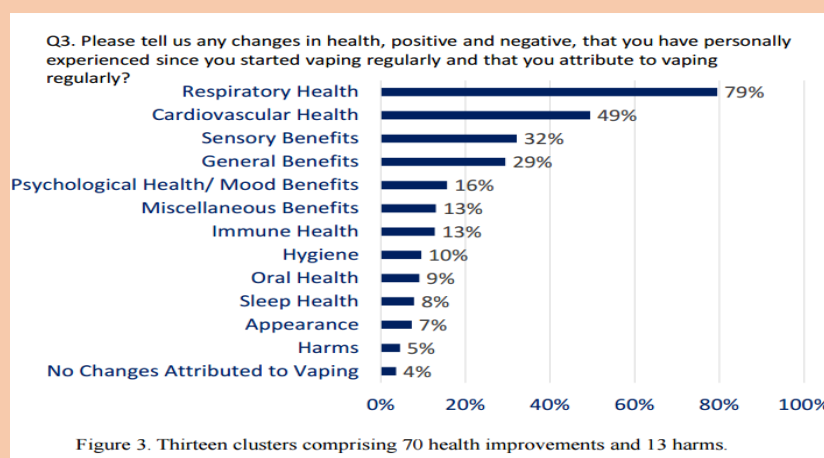
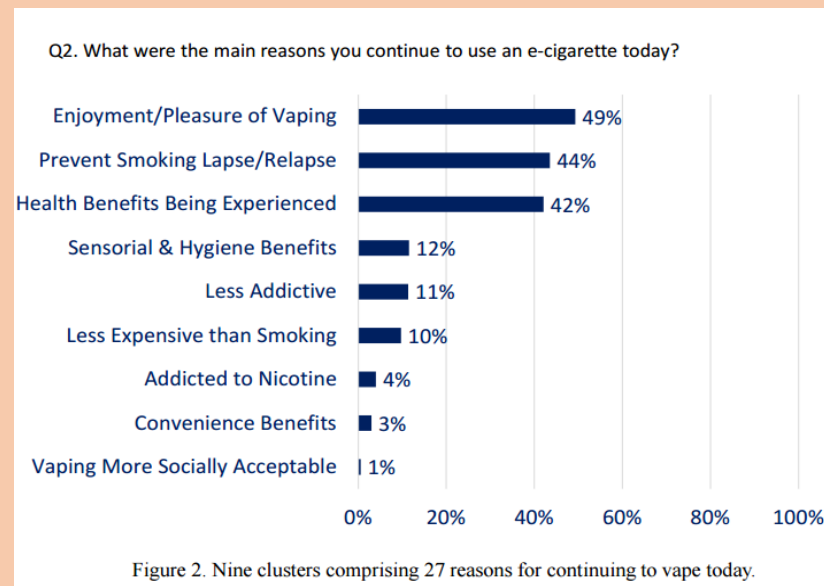
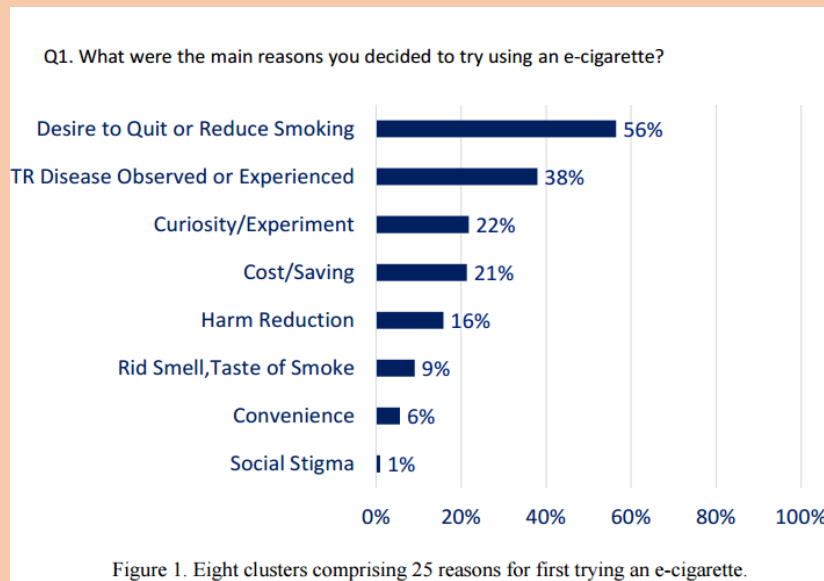
He said, "Persuading more smokers to try an e-cigarette, and then supporting them to persist with an e-cigarette as an alternative to smoking, is vital to the success of e-cigarettes in reducing tobacco-related harm."

He asked, "How can more smokers be persuaded to trial an e-cigarette, and then persist with use long-term?"

He pointed out that smokers need to, and wish to hear the stories of others who have successfully switched from smoking to vaping. Smokers need to experience the passion of vapers: They need to witness the massive experience that so many vapers have gained since making the switch; the knowledge and the huge emotive boost.

He stressed that there is Pressing need for research that collects, summarises and communicates the perceptions and experiences of successful vapers to both smokers and those charged with regulating vapour products. That we need vaping anecdotes, when supplied in their thousands, become a reliable, credible source of information about the ways in which e-cigarettes have enabled people to quit smoking

I will finish with the examples he gave from his survey...



Q4. What advice would you give to smokers who are thinking about using e-cigarettes to support an attempt to quit smoking?

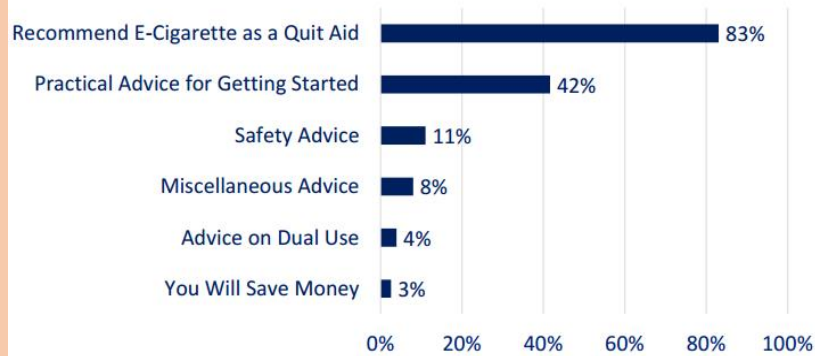


Figure 4. Six clusters comprising 27 pieces of advice that former-smoking vapers would give to current smokers who are considering using an e-cigarette.

Table 1. Eight changes in respiratory health experienced and attributed to quitting smoking and regular vaping.

Respiratory Health	Healthier lung/ thoracic capacity	13%
Respiratory Health	Better/easier breathing	49%
Respiratory Health	Reduced or no cough/wheeze	29%
Respiratory Health	< phlegm production	7%
Respiratory Health	< bronchitis, asthma	5%
Respiratory Health	< crackling in lungs / lung problems	2%
Respiratory Health	< sore throat	2%
Respiratory Health	< feeling less choked	1%

All slides: (<https://gfn.net.co/downloads/2016/Christopher%20Rusell.pdf>)

He gave a list of pointers for successful vapers' motivational Advice to aspiring-to-quit smokers

- 1) Don't expect miracles; do what you can do.
- 2) Don't compare yourself to anyone else.
- 3) Small steps taken with purpose are better than impractical giant leaps.
- 4) If you smoke, don't beat yourself up, it happens. Just go again.
- 5) Every cigarette less is an achievement; going again after a slip is a bigger achievement.
- 6) Define yourself by your achievements, not your failures.
- 7) Don't measure how far you have to go; be mindful of how far you have come.
- 8) Always be mindful of the harms of smoking that are being avoided by vaping instead.

Over and over again Dr Russell stressed the importance of 'ordinary' vapers and the importance of the role they have to play in the battle against cigarette smoking.

With special thanks to the GFN for the immaculate organisation of the conference, and for supplying much of the information from which this summary is gleaned.

Robert innes: Advisory Board Representative of the THRA at the GFN