# Critical commentary on the public comments on the FDA deeming rule submitted by UCSF faculty and fellows


### Clive Bates, UK Public Health Commentator


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**About the author.** The author, Clive Bates, has a long-standing interest in the public health potential of tobacco harm reduction, dating back to his time as Director of Action on Smoking and Health (UK) from 1997 to 2003. He has since been a civil servant in senior roles in the UK government and United Nations, and now runs Counterfactual, a public interest consultancy and advocacy practice. He has no competing interests with regard to the subjects contained in this submission. His views do not necessarily reflect those of former employers.

This public submission provides a short comment on each of the significant public submissions made by University of California at San Francisco (UCSF) faculty and fellows, as published on Professor Stanton Glantz' blog, complete to 6th August. Each UCSF submission is presented as a link in red with a brief commentary to follow. They have been grouped thematically rather than chronologically, as follows:

1. Summaries of science and principle
2. Health effects and the continuum of risk
3. Regulatory Impact Assessment and cost benefit analysis
4. Flavours
5. Internet sales
6. Nicotine poisoning and packaging
7. Population effects
8. Marketing and advertising
9. Warnings and addiction
10. Scope creep
11. Procedural manoeuvres

## 1. Summaries of science and principle

**Summary of scientific evidence on e-cigarettes submitted to FDA**

There are at least two superior summaries of the state of scientific evidence now available:

> Hajek P, Etter J-F, Benowitz N, et al. Electronic cigarettes: review of use, content, safety, effects on smokers and potential for harm and benefit. Addiction 2014;:n/a–n/a. doi:10.1111/add.12659
>
> Farsalinos KE, Polosa R. Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review. Ther Adv Drug Saf 2014;5:67–86. doi:10.1177/2042098614524430

Many of the arguments made in this submission and reflected in the *Circulation* paper cited in the submission are at variance with the findings of the formal reviews cited above and criticised heavily in the following letter to Dr Margaret Chan of 16 June 2014: *Glantz letter to WHO – the importance of dispassionate presentation and interpretations of evidence* (see below)

**The FDA should follow the advice of the 129 public health and medical authorities outlined in the attached letter that they sent to WHO Director General Margaret Chan regarding making evidence-based decisions about regulation of e-cigarettes.**

This letter contained many falsehoods, errors and misrepresentations, and the FDA should not follow its advice. The authors of the original letter to which this letter was a response wrote a commentary on it, which is available here: *Glantz letter to WHO – the importance of dispassionate presentation and interpretations of evidence*. The commentary identifies four main themes for criticism:

1. Contrary to the impression given, surveys have found that use of e-cigarettes by never smokers is negligible and smoking rates are declining among youth;
2. The claim that dual use of e-cigarettes and cigarettes confers no benefit is not supported;
3. The claim that e-cigarettes undermine cessation is not supported by evidence – which tends to support the opposite conclusion;
4. Failure to quantify the relative risk compared with tobacco creates a misleading impression to non-experts

The expert signatories of the first letter sent, 26 May 2014, to Dr Chan stand by the principles set out in it and recommend that FDA take this communication into account in considering regulatory its options: Reducing the toll of death and disease from tobacco – tobacco harm reduction and the Framework Convention on Tobacco Control (FCTC): a letter to WHO from 53 specialists in nicotine science and public health policy.

**Responses to common undocumented assertions about e-cigarettes for harm reduction**

Many of the arguments made in this submission are criticised heavily in the following letter to Dr Margaret Chan of WHO of 16 June 2014: *Glantz letter to WHO – the importance of dispassionate presentation and interpretations of evidence*.

**FDA should use information in the 2014 Surgeon General Report when finalizing its deeming rule**

The FDA should clearly use the assessment of the Surgeon General, but should read it carefully as it does not justify the conclusions drawn in this UCSF submission. For example it does not justify abandoning the 'continuum of risk' concept. Equally, there is nothing in the report to challenge the basic idea behind tobacco harm reduction – that nicotine, while not benign, has very low risks compared to those arising from the most common means of delivery.

Finally, the submission draws on the following SGR quote:

> The 2014 SGR concludes that "advertising and promotional activities by tobacco companies cause the onset and continuation of smoking and adolescents among adolescents are young adults."

This is a case of the FDA needing to review the SG report critically. The FDA will understand that there is more to the uptake of recreational drugs or risky lifestyle choices than advertising by aggressive industries. For example, according the CDC (Youth Risk Behavior Surveillance — United States, 2013) the uptake of marijuana, which is not advertised or promoted and is illegal in most states is higher than cigarette smoking.

*Nationwide, 8.6% of students had tried marijuana for the first time before age 13 years*

*Nationwide, 23.4% of students had used marijuana one or more times during the 30 days before the survey"*

The number of students smoking cigarettes was actually lower:

*Nationwide, 15.7% of students had smoked cigarettes on at least 1 day during the 30 days before the survey*

So while it is likely to one cause, advertising and promotion is unlikely to be the only cause, or even the most important cause. It is much more likely that young people will start to use e-cigarettes as alternatives to smoking and because adults and their peers do.

## 2. Health effects and the continuum of risk

### The "Continuum of Risk" Must Include Cardiovascular Disease

The UCSF submissions make much of cardiovascular risk arising from nicotine (as distinct from tobacco smoking). Tobacco smoking does clearly cause cardiovascular disease, but nicotine does not. The 2014 Surgeon General's report recognises only the most tenuous and tentative links and does not draw any conclusion that nicotine use causes cardiovascular harms (see Surgeon General, The Health Consequences of Smoking – 50 Years of Progress, 2014 Chapter 5 page 116). In their recent review, Farsalinos & Polosa, set out the evidence as it stands:

*However, it has been established that nicotine itself has minimal effect in initiating and promoting atherosclerotic heart disease [Ambrose and Barua, 2004]. It does not promote platelet aggregation [Zevin et al. 1998], does not affect coronary circulation [Nitenberg and Antony, 1999] and does not adversely alter the lipid profile [Ludviksdottir et al. 1999]. An observational study of more than 33,000 smokers found no evidence of increased risk for myocardial infarction or acute stroke after NRT subscription, although follow up was only 56 days [Hubbard et al. 2005]. Up to 5 years of nicotine gum use in the Lung Health Study was unrelated to cardiovascular diseases or other serious side effects [Murray et al.1996]. A meta-analysis of 35 clinical trials found no evidence of cardiovascular or other life-threatening adverse effects caused by nicotine intake [Greenland et al. 1998]. Even in patients with established cardiovascular disease, nicotine use in the form of NRTs does not increase cardiovascular risk [Woolf et al.2012; Benowitz and Gourlay, 1997].*

Farsalinos KE, Polosa R. Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review. Ther Adv Drug Saf 2014;5:67–86. doi:10.1177/2042098614524430

### More evidence against "continuum of risk" related to heart disease

The study cited in this submission provides no evidence whatsoever against the 'continuum of risk' in relation to heart disease. The study examines the outcomes for tobacco users who *have already had a heart attack* (myocardial infarction). If snus has low risk for a *first heart attack*, which it has, then it is likely that the snus-using patient in this study has some other contributory condition, and it may be that condition rather than continued snus use that causes subsequent heart attacks. The analysis is thus highly confounded by the cause of the initial heart attack. Even though the relative risk outcome *after* infarction is similar to smoking, still the number of people developing the first infarction is much lower with snus. In another study, snus users had similar stroke risk to never-smokers, but had a little higher mortality rate after they suffered from stroke. These are two separate findings, and the second one does not contradict the original, which shows that stroke prevalence is identical to never smokers. The statement "*They found that both quitting smoking and quitting snus had essentially the same effect on*

*reducing mortality risk following an acute myocardial infarction*" is not correct. The authors equalize the relative reduction within the group of smokers (quitting vs continuing) and the corresponding relative reduction in snus users. But a 50% reduction of the high risk in smokers is not, as claimed in the submission, the same reduction of number of deaths in the snus user group where the risk is lower. In summary, the claim that mortality is just same in smokers and snus users is not supported by the *Arefalk et al* study.

**Evidence that e-cigarette aerosol has the same effects on an important measure of lung function as cigarette smoke undermines the assumption that e-cigarettes are uniformly less risky than conventional cigarettes**

This submission uses an inappropriate proxy for risk and draws a conclusion that far exceeds the limitations of the experiment. It is obvious that the risk from cigarette smoke particulates arises from the highly reactive surface chemistry associated with smouldering organic products of combustion. The chemistry of vapour aerosol is completely different and relatively benign.

## 3. Regulatory Impact Assessment and cost benefit analysis

**UCSF economists critique FDA cost-benefit analysis of FDA deeming rule**

This submission offers, at best, second order criticisms. The key weaknesses of the Regulatory Impact Assessment and cost-benefit analysis are far more serious and are as follows:

**1. No attempt to assess the key benefit – the reduction in smoking – that would arise from greater uptake of e-cigarettes in the population.** This value will dominate all other elements of the cost-benefits analysis. The UK government uses a valuation of a single successful smoking cessation intervention of £74,000 ($124,000), based on value of life year saved of £60,000 and estimated saving of 1.24 life-years arising from a successful quit and current exchange rate [Source: Impact Assessment for UK position in EU Tobacco Product Directive negotiations – introduction and paragraph 35]. Recent survey data commissioned by Action on Smoking and Health [Use of e-cigarettes in Great Britain] estimated that 700,000 UK e-cigarette users were now ex-smokers. To put this in approximate context, if all of those ex-smokers who are now vaping had stopped smoking because of e-cigarettes, then the aggregate health benefits would be £52 *billion* ($87 billion) – 700,000 x £74,000. Note this is illustrative: there are various corrections for second order effects: to reflect residual risks of e-cigarette use; smokers who would have quit anyway; welfare gains arising from avoidance of craving and withdrawal arising from full cessation; reducing relapse rate to smoking. These figures arise from monetised 'value of life' estimates and are not healthcare expenditures or direct economic output. However, it is the effect on smoking behaviour that will dominate any realistic cost-benefit analysis. This is far more likely to be positive than negative.

**2. No attempt to assess how *regulation itself* may reduce or eliminate the benefits.** This would happen through, *inter alia*:

- Greatly reducing the diversity of firms and products in the marketplace through the excessive burdens of PMTA applications – this would radically reduce choice, increase costs, throttle innovation and is likely to hit the products most effective as alternatives to smoking (2nd and 3rd generation) hardest. The result is protection of the cigarette market, more smoking and more disease.
- Excessive controls on marketing– with advantages to the cigarette market and a reduction on the return to innovation;
- Bans on flavours or other product modifications that reduce the appeal of e-cigarettes to smokers;
- Disproportionate warnings (and misleading risk communication from health authorities) that fail to convey relative risk to smokers, and so reduce the value proposition to smoking relative to

smoking;
- Unnecessarily high manufacturing standards, raising costs and compliance burdens, and effectively decreasing the attractiveness of the products relative to smoking.

**3. No attempt to assess risks rising from real-world reactions to excessive regulation proposed by FDA.** This would include the rise of a black market, a DIY industry, a trade in unregulated additives and high strength nicotine liquids, criminal enterprise, illegal imports and cross border shopping. Much of this increases exactly the risks that FDA seeks to control. A regulator like the FDA should assess three dimensions of regulatory impact:

1. Costs & risks of regulation;
2. Benefits and opportunities of regulation;
3. Compliance and unintended consequences of defection.

**The Regulatory Impact Analysis Fails to Adequately Document the Sources for the Benefit and Cost Estimates upon Which it is Based**

The RIA should be clear about sources, but this is the very least of the problems with the RIA. See above.

**FDA Should Use the Public Health Standard Mandated by Congress, Not a Cost-Benefit Analysis, to Evaluate Proposed Regulations**

**Broad Range of Economists Agree that FDA's Use of Consumer Surplus Is Wrong, Including Jonathan Gruber, Whose Work FDA Cites as Justification for Doing So**

**FDA inappropriately discounts health benefits of regulating ecigs and cigars by 70% because of lost pleasure of smoking**

There is nothing in the legislation that requires the FDA to ignore particular costs, benefits or lost benefits associated with its regulatory determinations. In fact the submission itself cites language from the Act explicitly *requiring* cost benefit analysis:

> The finding as to whether [a] regulation would be appropriate for the protection of the public health shall be determined with respect to the risks and benefits to the populations as a whole (emphasis added).

Any regulator should weigh both costs and benefits of their regulatory proposals. These or costs and benefits may be in non-monetary form such as pleasure, relief of stress and withdrawal or craving, but monetised analytically for comparison purposes. The inclusion of 'pleasure' or other dimensions of welfare is more important for e-cigarettes than for cigarettes because the heart of the value proposition for e-cigarettes is that most of the recreational benefits can be realised while avoiding most of the costs to health and welfare. 'Addiction' of course complicates this picture but does not invalidate the need to evaluate the aggregate change in welfare arising from regulatory determinations based on the population as it is in reality: including some 42 million US adult citizens 'dependent' to varying degrees on smoking cigarettes. For that group, the most likely outcome of using e-cigarettes is significant *welfare improvement* – and this may be superior to stopping nicotine use completely thus avoiding withdrawal, cravings and the continued benefits to concentration and mood provided by nicotine. The range of prices within the US ($5 - $14.50 for Marlboro) and internationally does suggest that smokers have high willingness to pay more than the US average – it is quite possible that the consumer surplus is 70%.

**The Regulatory Impact Analysis Must Consider the Benefits of the Likelihood that the Regulated Companies will Pass the Costs of Compliance on to Smokers, which Will Raise the Cost of the Regulated Products, thereby Reducing Consumption and Improving Health**

It is true that the regulation will raise costs (as well as eliminate most products, place counterproductive restrictions on design and throttle innovation). However, *this is more likely to have a health cost* rather

than benefit. The submission fails to consider the cross-elasticity relationship between cigarettes and e-cigarettes: that is the marginal change in cigarette sales that arises from a marginal increase in e-cigarette price. The Regulatory Impact Analysis must consider the likely harms that would arise from raising the price of a much less risky product that can substitute for the dominant dangerous product.

**FDA economic model used in Regulatory Impact Analysis underestimates benefits by ignoring short term effects of smoking**

This analysis *supports the case for e-cigarettes*, because it adds to benefits of switching from smoking to vaping and avoiding the short-term effects of smoking. Many vapers report very significant welfare and wellbeing improvements on switching from smoking to e-cigarettes. It is important these are considered properly in the RIA – and the they risk that they are lost due to excessive regulation should be similarly considered by FDA.

## 4. Flavours

**FDA Should Prohibit Flavors in all Tobacco Products in the Current Rule Making**

**FDA should prohibit of use of flavors in deemed tobacco products as part of the current rulemaking (includes new data on high school athletes)**

Prohibiting flavours would amount to a *de facto* ban as all products are flavoured to some degree. It is also likely to have several negative effects, including the rise of DIY mixing and a black market in flavourings and flavoured e-liquids. However, the primary negative outcome from this would be increased smoking, as fewer smokers would find attractive, legally available, extremely low risk products to switch to. The submission takes no account of this risk. The submission also fails to consider the potential benefits of e-cigarettes that are attractive to young people: that they will use these products instead of smoking and avoid a lifetime smoking and related harms. This is not fanciful: it has been the effect of snus use in Scandinavia where there is initial use of snus among some young people, but it has had the effect of diverting from onset of smoking.

**E-Cigarette Makers Are in an Arms Race for Exotic Vapor Flavors**

This submission simply asserts that the flavours in question are aimed at young people, but provides no evidence that they are: a) targeted at; b) disproportionately attractive to people under 18 compared to young adults 18+ or any adults. Competition and innovation is an important driver of e-cigarette commerce and its most likely beneficial effect is to widen the appeal of the product to adult smokers, promote switching from smoking and create a public health dividend. The submission does not appear recognise this possibility or to consider the negative impact of reducing competition in flavours. FDA should assess this risk carefully and not adopt the proposals of this submission.

**Lorillard Admits Flavored E-Cigarettes Attract Youth; FDA Should Prohibit Flavors As Part Of The Current Rulemaking**

It is blatantly wrong and misleading to attribute this view to Lorillard. The (only) important part of this submission is the phrase:

> The content of this site reflects the views and professional opinions of Dr. Michael H. Popkin, Ph.D.," another page on the site states[2] that "Michael H. Popkin, Ph.D., is the longtime *spokesperson* for Lorillard's Youth Smoking Prevention Program ... [emphasis added in the UCSF submission]."

Unsurprisingly, Lorillard appears to have outsourced its youth smoking prevention activity to a third party, presumably to avoid accusations that it is manipulating youth through control over its youth

smoking prevention programmes. So these are Dr Popkin's views, as clearly and unambiguously stated, not the views of Lorillard or Blu e-cigarettes.

## 5. Internet sales

**FDA Should Prohibit All Non-Face-to-Face (Including Internet) Sales of Tobacco Products as FDA Originally Proposed to the OMB**

**FDA to kids: Not 18? No problem! Buy your e-cigs (and cigars and other tobacco products) online!**

There is no case for limiting this form of internet-based trade, and it is integral to the business model of many American businesses working in this field. The requirement to use credit cards for on-line purchasing creates a significant barrier to under-age purchase not found in face-to-face sale, and some degree of enhanced age verification could be introduced more easily through internet based sales than in face to face transactions. The idea that tobacco sales to youth are constrained by allowing only face-to-face sales fails any reality test - the prevalence of current tobacco product use among middle and high school students was 6.7% and 23.3%, respectively in 2012 but there is little evidence that internet sales are the primary means by which young smokers access cigarettes. This proposal simply has the effect of reducing access and increasing transaction costs for users of a much safer alternative to cigarettes, and therefore would cause harm. It is fundamentally anti-competitive in a way that protects cigarette sales. Because the market for e-cigarettes is currently so much smaller, there will be lower geographical density of bricks and mortar specialist vape shop outlets willing to stock them and hold the diversity of products that are now in use and accessible via internet retailers. Most users would therefore have easy access only to the narrow range of cig-a-like products available in convenience stores, rather than the products that are more effective alternatives to smoking. Again, UCSF comes up with a proposal that protects cigarette sales from competition from a disruptive entrant.

## 6. Nicotine poisoning and packaging

**Child resistant packaging of electronic cigarette devices and refill liquid containers containing nicotine to prevent childhood poisoning**

There is an ISO standard, ISO 8317, that provides the basis for a child resistant packaging standard and should be adopted by all manufacturers now, without waiting for an FDA rule. The risks of poisoning have been greatly overstated in the media. The toxicity of nicotine liquids is generally overstated in the literature. A recent review examined the poisoning data, summarised as follows:

> *A claim is often repeated that an ingestion of 30–60 mg of nicotine is fatal [88], but this assertion is based on dubious self-experiments in the 1890s [89]. Tobacco and NRT have been available to hundreds of millions of people, but fatal poisoning by nicotine is extremely rare. We are aware of one newspaper report of a fatal poisoning of a 2-year-old child who drank e-liquid [90] and of one case study on an 18-month-old child who drank e-liquid, was admitted to hospital with vomiting, ataxia and lethargy, and was discharged after 24 hours of observation [91]. With the increase in EC use, there has been an increase in calls to poison centres following accidental exposures, but these remain lower than calls following such exposure from tobacco and none resulted in any serious harm [92]. Several suicide attempts were recorded where adults drank up to 1500 mg of nicotine in e-liquid, which resulted in vomiting but recovery within a few hours [93].* Hajek P, Etter J-F, Benowitz N, *et al.* Electronic cigarettes: review of use, content, safety, effects on smokers and potential for harm and benefit. *Addiction* 2014

# 7. Population effects

**FDA should not make regulatory decisions based on the "continuum of risk" theory until it has affirmative evidence that, as actually used, e-cigarettes or other tobacco products lower population risk**

**The continuum of risk.** It is true, there is not really a 'continuum of risk', but not in the way asserted in this submission. It is more dramatic than that. There is a pronounced *discontinuity* between combustible and non-combustible nicotine products, such as smokeless tobacco and e-cigarettes. The continuum of risk relates to individual risk and the choices available to individuals – and there is no dispute in the responsible academic community that e-cigarettes are much less hazardous than cigarettes – one to two orders of magnitude lower – at the individual level.

**Symmetrical treatment of population risks or benefits under conditions of uncertainty.** The population risks are inevitably difficult to determine and may take time to become fully apparent – partly because it is difficult to know what would happen in the absence of e-cigarettes, and partly because transitions arising from their introduction may take many years to work through. There is considerable danger that under conditions of uncertainty adopting the approach to burden of proof suggested in this submission would foreclose the realisation of significant population benefits – and so protect cigarettes from competition and increase harm. FDA should assess this risk and be careful not to repeat the experience of snus in Europe, where hypothetical population effects were use to justify banning snus in most EU countries, only for the population effects to turn out strongly beneficial in the two West European countries where snus is permitted, Norway and Sweden – with the implication that the ban in other countries has contributed to avoidable harm. Furthermore, FDA has to be mindful of the ethical problem of denying a person a much less risky product because *someone else* uses the product to continue smoking. The FDA's population effect tests are symmetrical – giving as much weight to upside benefits (smoking cessation, avoided smoking onset etc) as downside risks at population level.

**Resolving the burden of proof under conditions of uncertainty**. This means that allocating the burden of proof as suggested in the submission creates risks arising from lost benefits and these matter no less than other risks. In determining how to proceed with uncertainty about population effects, FDA should draw on the following three considerations:

> (1) the individual risk is *much* lower and anyone switching will make significant health and welfare gains – it is this that should determine the default setting for allocating burden of proof when population effects are uncertain;
>
> (2) no negative population effects are so far apparent and observed data is consistent with emerging population benefits, including use in young people displacing smoking;
>
> (3) the cautionary experience of the snus ban from Europe.

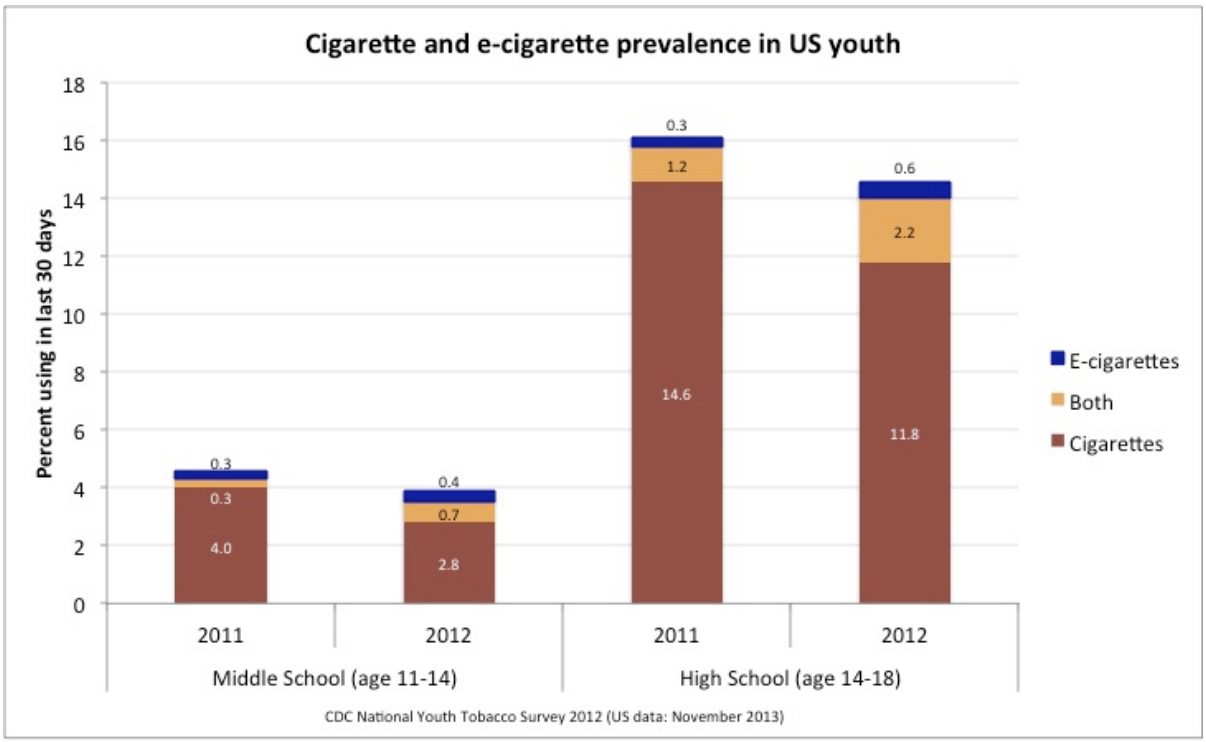
In this light, the appropriate approach is to allow the e-cigarettes access to market even if there is residual uncertainty regarding population effects. The FDA/CDC should continue market surveillance and to place the burden of proof on those who wish to remove e-cigarettes to show they are causing harm at the population level – an idea that is theoretically possible, but barely plausible.

# 8. Marketing and advertising

**FDA Should Restrict E-cigarette Marketing to Protect Youth as Part of the Currently Proposed Regulation**

There is widespread agreement within the industry that it does not wish to target under 18s and nor does it have any need to: the primary target market for e-cigarettes is the $800 billion global market for tobacco - more than 100 times larger than the current e-cigarette market. The value proposition

associated with e-cigarettes is at by far its strongest with adult smokers. There is a case for some marketing controls to prevent appeal to children, but there is a danger of so broadly defining to 'protect youth' that it has the effect of protecting something else entirely: cigarette sales. Marketing plays an important role in e-cigarette commerce: it raises awareness; rewards innovation; builds trusted brands; and creates competition with smoking. Marketing plays an important role in convincing smokers to switch to e-cigarettes and excessive controls on marketing may have the harmful effect of increasing avoidable smoking and harm. FDA should take the potential for perverse consequences into account when assessing this submission. A further issue for FDA to consider is the unacknowledged potential benefit arising from e-cigarette use among young people: it may act as a diversion from smoking onset or create an early 'exit' gateway for young smokers. It is not established that the use of e-cigarettes by young people is bad for public health. In fact it coincides with a rapid fall in smoking, as shown in the chart below, based on CDC data.




### FDA Should Prohibit E-cigarette Marketing that Promotes False Health Claims

False claims about products are not permitted under general consumer protection law in the United States as in most jurisdictions – it does not require FDA to deem products as tobacco or medicines to do this. Inappropriate labelling or implied endorsement of the FDA is also wrong.

### Resubmission of 2013 comment documenting ecigarette cessation claims in their marketing

People do buy e-cigarettes as an alternative to smoking and that is their primary function. No evidence is provided here that any claim is false, only that the claim has not been validated in a particularly burdensome way by an agency that does not have the appropriate jurisdiction at the time.

## 9. Warnings and addiction

### The FDA's Proposed Warnings on Addiction are Inadequate and Do Not Reflect Current

### Understanding of Appropriate Messaging on Addiction

### FDA's Proposed Warning Statements Are Weak and Ineffective both in Form and Content and Should Be Replaced with Effective Messages

The warning ("Nicotine is an addictive chemical") is indeed misleading, but not in the way suggested in this submission. 'Addiction' is not a characteristic only of the chemical, it is mostly related to the pharmacokinetics (PK) arising from the method of delivery – lung delivery of free nicotine via cigarette smoke being the most addictive. The authors present no evidence that e-cigarettes are addictive to new users, or that a stronger warning is justified given the PK characteristics of e-cigarettes. It is likely, however, that e-cigarettes in their current form are not as addictive as smoking and may therefore form part of a useful pathway to smoking cessation or reduced dependency on continued nicotine use. The further problem with these warnings is that from the perspective of the smoker, the 'addictiveness' or PK 'spike' of blood nicotine levels are *desirable characteristics* of e-cigarettes, as they make them more effective alternatives to smoking. FDA and CDC should adopt a more subtle approach to 'warnings', replacing them with health information that balances proportionate warnings to new users with encouragement to smokers.

## 10. Scope creep

### FDA Should Not Exclude Accessories from the Scope of the Deeming Rule

Accessories are not 'tobacco products' under any interpretation of the definition in the relevant legislation.

### FDA Should Deem Hookah Tobacco, Hookah Device, and Hookah Charcoal as a Tobacco Product

These products are tobacco products if they contain tobacco, not otherwise.

## 11. Procedural manoeuvres

### FDA Should Not Extend the Compliance Period for Marketing Applications and Other Submissions

### The Proposed Two Year Phase in for Requiring Premarket Approval of Newly Deemed Tobacco Products is Too Long; 6 Months Would be More Appropriate

The FDA should be mindful of the very substantial burdens its Pre-Market Tobacco Application (PMTA) process will create and apply to very small businesses – far beyond what is necessary or justified by the health risks of e-cigarettes. FDA should recall that this degree of bureaucracy has only been tolerated because there is little political, economic or public health interest in reducing burdens on tobacco manufacturers for their combustible products. If FDA proceeds with its proposal and so requires PMTA for the firms and products on the market, it is right to take account of the lower capacity that many will have. It is not the role of the FDA to destroy perfectly good businesses and products because they cannot meet its compliance burdens (rather than having deficient or dangerous products) – the longer compliance period is a welcome if only partial recognition of this. The submission calls for no flexibility – the main beneficiary of that will be tobacco industry e-cigarette affiliates, who will make applications for their first generation commodity cig-a-like products while FDA wipes out their more effective 2$^{nd}$ and 3$^{rd}$ generation competitors.

### FDA should deny industry requests to extend public comment on deeming; granting industry request = 26,000 more kids trying ecigs

Changing the timing of the process to allow more informed comments will improve the quality of the ruling and allow the FDA to assess a wider range of views. For the sake of a few extra weeks the extension was worthwhile. The US health establishment disgraced itself in opposing this for tactical reasons, and to inhibit a more open and inclusive approach to government.