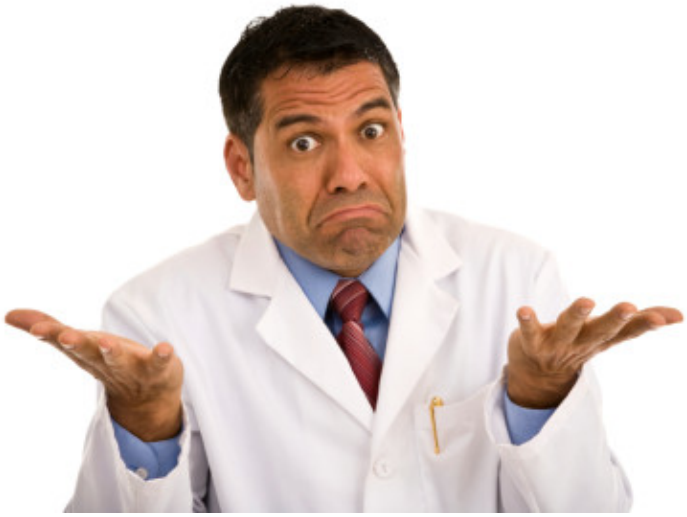
Harmful and negligent to ignore unintended consequences of e-cigarette policies

written by Clive Bates | 17 March 2016



Sorry mate, didn't intend to kill you

In my paper on regulating recreational drugs: *Harms or highs? Regulating narcotics, alcohol and nicotine* (2015), I suggested, wishfully perhaps, there is rising awareness of the perils of unintended consequences from well-meaning but misguided policies:

> *"…there is growing recognition that much harm can be caused by the very policy interventions designed to address drug use, up to and including the destabilisation of entire 'narco-states' but including many counter-productive unintended consequences"*

There is probably better recognition in illicit drugs policy, where the 'war on drugs' is increasingly recognised as a full-scale disaster. But how is this question playing out for vaping? Three recent studies should be giving pause for reflection and caution in 'tobacco control'.

Four papers suggesting harmful unintended consequences of e-cigarette policy

1. How does electronic cigarette access affect adolescent smoking?

We start with Abigail Friedman's analysis from Yale. She examines the trends in smoking in U.S. states that have and have not banned e-cigarettes sales to adolescents and finds that smoking is relatively increased in places with e-cigarette bans.

Friedman AS. How does Electronic Cigarette Access affect Adolescent Smoking? *J Health Econ* Published Online First: October 2015. [pubmed]

> *ABSTRACT: Understanding electronic cigarettes' effect on tobacco smoking is a central economic and policy issue. This paper examines the causal impact of e-cigarette access on conventional cigarette use by adolescents. Regression analyses consider how state bans on e-cigarette sales to minors influence smoking rates among 12 to 17 year olds. Such bans yield a statistically significant 0.9 percentage point* ***increase in recent smoking in this age group****, relative to states without such bans. Results are robust to multiple specifications as well as several falsification and placebo checks. This effect is both consistent with e-cigarette access reducing smoking among minors, and large: banning electronic cigarette sales to minors counteracts 70 percent of the downward pre-trend in teen cigarette smoking for a given two-year period.*

See this commentary by Brad Rodu: Youth E-Cigarette Bans Increase Youth Cigarette Smoking. I also mentioned this study in my letter to Matt Myers of Tobacco Free Kids: 10 ways to improve Matt Myers' letter to the New York Times at point 10. As I suggested to Myers:

> ***10. Take some responsibility for unintended consequences – or at least look worried that you might be making things worse.*** *Regulatory activists need to think harder about whether their ideas for protecting young people, non-smokers or even smokers from vaping simply expose these people to more smoking by making vaping relatively less attractive.*

I have a feeling he hasn't yet taken this advice on board.

2. The influence of electronic cigarette age purchasing restrictions on adolescent tobacco and marijuana use

Second, Michael Pesko and colleagues from Cornell Medical School with a study adding weight to the quite unsurprising idea above that restricting access to e-cigarettes might increase smoking. If there are common risk factors for smoking and vaping, then making it harder or more expensive to access one will likely increase use of the other. That should not by a surprising finding and it is not surprising that it is appearing in the data.

Pesko MF, Hughes JM, Faisal FS. The influence of electronic cigarette age purchasing restrictions on adolescent tobacco and marijuana use. *Prev Med (Baltim),* February 2016 [pubmed]

> *RESULTS: For cigarette use, we separate our results into cigarette use frequency. We found causal evidence that ENDS age purchasing restrictions increased adolescent regular cigarette use by 0.8 percentage points. ENDS age purchasing restrictions were not associated with cigar use, smokeless tobacco use, or marijuana use.*
>
> *CONCLUSIONS: We document a* ***concerning trend of cigarette smoking among adolescents increasing*** *when ENDS become more difficult to purchase.*

See in-depth review by Brad Rodu: Association of Youth E-Cigarette Bans with Increased Smoking Confirmed and the Daily Caller: Cornell Study Finds Raising The Vaping Age Actually Increases Teen Smoking

3. Advertising and Demand for Addictive Goods: The Effects of E-Cigarette Advertising

Now let's go to Stanford. Anna Tuchman's work suggests bans on TV advertising of e-cigarettes could raise cigarette demand. It's quite obvious why: if e-cigarettes are alternatives to smoking, then reducing the advertising will protect cigarettes from competition, and reduce the impetus for smokers to switch.

Tuchman A. Advertising and Demand for Addictive Goods: The Effects of E-Cigarette Advertising, Stanford University, (working paper) September 2015 [link]

Although TV advertising for traditional cigarettes has been banned since 1971, advertising for electronic cigarettes remains unregulated. The effects of e-cigarette ads have been heavily debated by policymakers and the media, though empirical analysis of the market has been limited. To analyze this question, I leverage access to county-level sales and advertising data on cigarettes and related tobacco products, along with detailed data on the consumption behavior of a panel of households. I exploit a discontinuity in advertising along television market borders to present descriptive evidence that suggests that e-cigarette advertising reduces aggregate demand for traditional cigarettes. Analyzing household purchase data, I find evidence of addiction and that individuals reduce their consumption of traditional cigarettes after buying e-cigarettes, further suggesting that the products are substitutes. I then specify a structural model of demand for cigarettes that incorporates addiction and allows for heterogeneity across households. The model enables me to leverage the information content of both datasets to identify variation in tastes across markets and the state dependence induced on choice by addiction. I show how the model can be estimated linking both datasets in a unified estimation procedure. Using the demand model estimates, I evaluate the impact of a proposed ban on e-cigarette television advertising. I find that in the absence of e-cigarette advertising, ***demand for traditional cigarettes would increase****, suggesting that a ban on e-cigarette advertising may have unintended consequences.*

E-cigarettes and unintended consequences – danger list

I have suggested that many aspects of policy on e-cigarettes / vaping are likely to have a serious counter-productive health and commercial effects. This is because 'getting tough' on e-cigarettes is a kind of double negative – *being tough on harm reduction is like being easy on harm*. It should be obvious that there are dangers here. See: Turning the tables on public health – let's talk about the risks *they* create from July 2014, or my table mapping likely unintended consequences below:

Regulatory idea	Likely unintended consequence
Ban e-cigarette use in public places	Diminishes value proposition of e-cigarettes to users and 'denormalises' vaping, a much less risky option, diminishes the appeal of vaping relative to smoking, May promote relapse in existing vapers if they join smokers outside. Likely to lead to more smoking.
Restrictions on advertising, promotion and sponsorship	Reduces the ability of e-cigarette brands to compete with cigarettes and diminishes means to communicate the value proposition to smokers. May reduce means to communicate innovation or build trusted brands. May turn ads into bland public information notices. Some restrictions are undoubtedly justified and a balance should be struck, but excessive restriction will protect the cigarette trade.
Product design restrictions and requirements – testing and paperwork	There are numerous subtle trade-offs in product design between safety and appeal and cost. For example, the perfectly safe product that no-one wants to buy may be *worse* for health if it means more people smoke. Excessive design regulation can impose high costs, burdens and restrictions, slow innovation and drive good products and firms out of the market through 'regulatory barriers' to entry. Very high spec regulations will tend to favour high volume, low diversity commoditised products made by tobacco or pharmaceutical companies. Regulation can adversely reshape the market and reduce the pace of innovation.
Ban flavours	All e-cigarettes and liquids are flavoured with something – and this forms a key part of the appeal. Many former smokers report switching to non-tobacco flavours as a way of moving permanently away from smoking. There is a significant risk that loss of broad flavour categories will cause relapse among e-cigarette users, fewer smokers switching, and development of DIY and black market flavours – which may be more dangerous.

Regulatory idea	Likely unintended consequence
Ban flavours that appeal to kids	It is a common mistake in public health to believe that adolescents are attracted to things that adults regard as child-like, such candy-flavours. Adolescent experimentation is often about emulating adults or rejecting childhood. A ban on flavouring may have impacts on adults, but adolescents may simply switch to a different flavour – like tobacco.
Ban open systems because they may be used for other drugs	This might require 'closed systems' to be made mandatory (as proposed by tobacco company RJ Reynolds with this justification, but probably for anti-competitive reasons). But this has the effect of removing the 'open system' 2nd and 3rd generation products from the market. Many vapers report these are more effective alternatives to smoking. Note vaping may be a safer way to take other drugs than smoking –there may be a harm reduction benefit to drug users.
Health warnings	Alarmist health warnings, even if technically correct, can be misleading and misunderstood by the public. This has always been the case with smokeless tobacco – warnings do not adequately communicate relative risk and, therefore, understate smoking risks or the advantage of switching. They may obscure much more important messages about relative risk compared to smoking that is not provided in official communications.
Ban sales to under-18s	There is near universal support for this. However, it is worth noting that NRT is made available to people over 12 years in some jurisdictions – because young smokers also need to quit. It should not be assumed that 'harm reduction' should start at 18. A US study[link] found that in areas where e-cigarette sales to under-18s had been banned the decline in smoking was slower than in areas where it was not banned.

Regulatory idea	Likely unintended consequence
Prohibit health claims unless regulatory approval	This denies smokers real world truthful information about relative risk and may cause more smoking. It is uncontroversial that e-cigarettes are safer than smoking – the debate is over where in the range 95-100% less risky. This erects high and unnecessary regulatory barrier to truthful communication, and claim-making should be tested in the same way any consumer claim must be truthful and proportionate – not to the standard required for medicines.
Raise taxes on e-cigarettes	This reduces the financial incentive to switch from smoking to vaping unless the tax on smoking is also increased. But these taxes if raised too far will tip users into other forms of unintended behaviour – accessing the black market, switching to rolling tobacco, or create cottage industries producing e-liquids in garages. It may also favour smoking cessation medications that are less effective on average, such as NRT (which in the UK actually has a *tax break*)

So what needs to be done?

It's pretty simple really. There needs to be purposeful surveillance, exploitation of natural experiments, and proper assessments of the *impacts of policy – including the harmful unintended impacts.* Policy-makers and politicians need to recognise that their policies can cause harm, even if they mean well, and accept some responsibility for that. So here are some questions:

1. In the light of the studies of Friedman and Pesko et al, suggesting bans on e-cigarette sales to adolescents increase smoking, what will be done to assess the impact of the UK ban on sales of e-cigarettes to under-18s on youth smoking?
2. In the light of Tuchman paper on the adverse effect of banning e-cigarette advertising on demand for cigarettes, what will be done to assess the impact of the ban on most e-cigarette advertising that will come into effect under the EU Tobacco Products Directive from 20 May 2016?
3. What will be done to assess the impact of the Tobacco Products Directive

on smoking rates, and wider public health, and to assess whether it is meeting expectations or having any unintended consequences – both as a health measure and internal market measure?

4. How will the positive and the unintended consequences of the FDA's deeming regulation on e-cigarettes be assessed, if it is eventually agreed and enters force?
5. How have the *de facto* bans on vaping in Canada and Australia been monitored, and what have their proponents done to assess whether there are unintended consequences? What are other jurisdictions with prohibitionist policies doing?
6. When will anyone in public health, tobacco control or the European Union accept responsibility for the unintended consequences of banning snus and the outrageous negligence of continuing the ban in the face of all the evidence?
7. How will WHO ensure its recommended policies on ENDS do not have the unintended consequence of increasing smoking and contributing to the failure to meet its targets for reducing non-communicable diseases?

Murder or manslaughter? I sometimes hear the term 'desk-murder' used to describe the health implications of bureaucratic decisions made remotely from those who suffer the consequences. 'Murder' is probably a bit strong as I doubt that many bureaucrats come to work with the express intent of killing people. But there is a case that policy-makers and advocates who do not assess the unintended consequences of policies are being professionally negligent, and that if this negligence leads to harm, then it is a form of corporate manslaughter.

I hope it won't be too long before the courts start to hold people accountable for unintended consequences arising from their negligence.