Allow use of electronic cigarettes to assess risk

Monitoring the outcomes of incentivized e-cigarette use, not endless research, will be the key to sensible regulation, says **Daniel Sarewitz**.

Electronic cigarettes are growing rapidly in popularity. In the United States they remain unregulated, but 8 August marked the end of the public comment period on a proposal by the US Food and Drug Administration (FDA) that would bring e-cigarettes under its authority. Now the FDA must act.

That action must be based on science. The FDA's background document explains: "We do not currently have sufficient data about these products to determine what effects e-cigarettes have on the public health." Only if e-cigarettes are deemed a tobacco product, as under the proposal, can the agency begin to collect the data that can permit it to "account for the net public health impacts". On the basis of this assessment, the FDA can decide how to craft regulations to protect and improve public health.

When it comes to the direct impact of these devices on public health, the tenor of the FDA's language, and of comments from many relevant organizations, is precautionary. The American Cancer Society (ACS) says: "Until electronic cigarettes are scientifically proven to be safe and effective, ACS will support the regulation of e-cigarettes and laws that treat them like all other tobacco products." The Forum of International Respiratory Societies goes further, saying that the risks of e-cigarettes have not been adequately studied and as a precaution, such devices "should be restricted or banned until more information about their safety is available". A group of 29 state attorneys general sent a 33-page letter to the FDA arguing that "e-cigarettes contain and deliver nicotine — a well-recognized addictive chemical — in amounts comparable to traditional cigarettes. Accordingly, e-cigarettes should be assumed to be both harmful and addictive."

Bollocks. Let's do a thought experiment. Imagine that every smoker in the United States changed to e-cigarettes. What would be the consequences? An e-cigarette, in essence, allows you to be addicted to nicotine (which is not carcinogenic), and to enjoy the tactile pleasures of smoking without exposing yourself to the 60 or more cancer-causing agents, or to most of the hundreds of other toxic chemicals, that are released from burning tobacco. If all US smokers 'vaped' (the verb coined to distinguish inhaling e-cigarette vapours from inhaling tobacco smoke) instead of smoked, about 480,000 deaths might eventually be avoided per year. We may never approach such a full transition, but the point is that the causal relationship between inhaling tobacco smoke and dying from cancer and other diseases is very robust.

How many people would e-cigarettes kill instead? Evidence of the effects of widespread vaping is limited and contradictory. Some studies show that e-cigarettes can wean people from smoking, others suggest that the effect is, at best, modest and short-lived. Still others suggest that anything that makes vaping seem desirable might coax non-smokers to smoke.

Unanticipated potential risks are being discovered and debated. Studies have shown that e-cigarette vapour includes various fine particulates, some of which are toxic; other research indicates that exposure levels are too low to be dangerous. More science will expand the evidence and the potential risks, but as complexities and questions emerge it will also increase, rather than reduce, the contradictions and uncertainties. The extraordinary difficulty of demonstrating the benefits of salt reduction, mammography, or various diets, for example, ought to serve as cautionary lessons. Given the millions who will die from smoking in the near future, does it make sense to spend years discovering, characterizing and debating ancillary risks of vaping that are almost certainly less serious than the known risks of smoking as a precondition for responsible policy-making? This is precaution?

E-cigarettes must be regulated. Ingredients should be labelled. No responsible voices would allow them to be sold to children. Such requirements are already in force in the European Union. The more important question is whether regulation should be driven by the risks of e-cigarette use, or by the risks of not using them. The former promises endless research, uncertainty, and debate; the latter may offer a technological short-cut to solving one of the world's most serious public-health problems.

No one knows to what extent vaping will displace smoking, but the sure way never to find out is to make policies hostage to endless studies on population-wide risks. Instead we should test the effectiveness of policies, perhaps in limited jurisdictions, that encourage vaping among smokers and potential smokers. Keep the tax burden, and thus cost, low relative to cigarettes. Allow advertisements. With George Clooney. Continue to allow vaping in bars, restaurants and workplaces. Make smoking uncool, expensive and stupid, and vaping cool and smart. If people must get addicted to something, let them get addicted to a thing that does not give them or their families cancer. And carefully monitor the outcomes.

As research for this column, I tried vaping. The taste was perfectly pleasant, and my office colleagues said that the white-ish clouds I exhaled had no smell. I am not a smoker, so I cannot rate how the overall experience compares to cigarettes, and I have not vaped enough to recognize any physiological response. But then again, I am already addicted to the pleasures of caffeine, and one costly addiction is enough. ■

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