

When you thought public health could go no lower - it just did

written by Clive Bates | 31 August 2016



Except that is wrong in every way

The news coverage:

British newspapers, the main domestic vector of the anti-scientific public health dogma and baseless fear-mongering, were yesterday filled with prominently positioned garbage articles about vaping:

- The Sun: [VAPING BAD E-cigs are just as bad for your heart as smoking fags as they damage key blood vessels, say experts](#) [note different printed cover above]
- The Mirror: [E-cigarettes are as bad for you as SMOKING, a new study has claimed](#)
- The Mail: [E-cigarettes are 'as bad for the heart as tobacco': Nicotine vapour damages blood vessels and raises risk of disease](#)
- The Telegraph: [Vaping as bad for your heart as smoking cigarettes, study finds](#)

- The Times: [Vaping risk is similar to smoking](#)
- Independent: [Vaping is 'as bad as smoking cigarettes' for damaging key blood vessels](#)

Not one single element of these headlines has any grounding in reality, and all are grossly misleading. The contributory negligence or cynicism of journalists in reporting vaping health stories is now [commonplace](#). However, in this discussion, I would like to focus on the extraordinary negligence of the scientist behind these claims.

The quick version:

See Peter Hajek's comment at the excellent [Sense about Science](#):

Professor Peter Hajek, director of the Tobacco Dependence Research Unit at the Wolfson Institute of Preventive Medicine at Queen Mary University London, said:

"The study is reporting on a well-known short-term effect of nicotine - stiffening of arteries - that accompanies all types of stimulation. The same effect is generated by watching a thriller or a football match or sitting an exam. Drinking a cup of coffee actually produces a larger response of much longer duration. The key heart health risks of smoking are not caused by nicotine but by other chemicals in tobacco smoke that are not present in e-cigarette vapour."

The facts:

- Who's behind it? The claim that prompted these headlines was made at a conference, the [European Society of Cardiology congress in Rome](#), by Professor Charalambos Vlachopoulos, of the University of Athens Medical School. It is, of course, [sponsored](#) by pharma interests. He is responsible for carefully describing the limitations of his study, yet there is no sign of caution or caveat.
- What is it based on? It was based on a study of one particular well known acute response to nicotine exposure, written up as a letter to a journal: Vlachopoulos C, Ioakeimidis N, Abdelrasoul M, et al (2016)

Electronic Cigarette Smoking Increases Aortic Stiffness and Blood Pressure in Young Smokers. *J Am Coll Cardiol* 67:2802–2803. [[link](#)][[PDF](#)]

- What was the study about and should we be concerned? We should not be concerned by this. This is a study that measures an acute effect of nicotine use on the ‘stiffness’ blood vessels. Similar effects are found with exposure to coffee, as a result of exercise and even while listening to music. Please see Mike Siegel’s amusing ridicule here: [Anti-Tobacco Researcher: Cardiovascular Effects of E-Cigarettes are Nearly as Big as Smoking](#). Just because a stimulant causes a change to some measurable property of the body, it cannot be assumed (as they appear to have done here) that this will lead to harm.
- Should Professor Vlachopoulos have known about caffeine causing the same effect on aortic stiffness as nicotine? Yes. He was the lead author of a study about it.

Vlachopoulos C, Hirata K, O’Rourke MF (2003) Effect of caffeine on aortic elastic properties and wave reflection. J Hypertens 21:563–70. [[link](#)]

Conclusions: Caffeine affects unfavorably aortic stiffness and enhances wave reflections. This finding has implications for the impact of caffeine consumption on cardiovascular risk.

[Improved conclusion: “This finding has (fatal) implications for (exaggerated) claims about the impact of aortic stiffness on cardiovascular risk”]

- Is it new news? No. We already knew nicotine itself caused arterial stiffening [[here](#)] so nothing new is revealed here.
- Does this signal that vaping has the same cardiovascular risks as smoking? No. It does not automatically follow that this stiffening effect causes cardiovascular disease in smokers or that it is a good marker for disease risk - and the study has cited nothing that establishes this link. It may be something else in cigarette smoke, rather than nicotine and rather than this particular effect (eg. like clogging of arteries). It may be that nicotine combines with something else in tobacco smoke to have a combined effect. To the extent the science is understood, it is *products of combustion* (like carbon monoxide) in cigarette smoke that do the damage to the cardiovascular system, with nicotine possibly having a reinforcing

effect on these. See the U.S. Surgeon General on smoking and cardiovascular disease [here](#).

- So what do actual experts say about nicotine and vaping? Where nicotine is used separately from tobacco smoke, for example in the form of NRT or smokeless tobacco, there is no significant elevated disease risk. With these insights, Benowitz and Burbank reviewed the evidence on nicotine cardiovascular risks with e-cigarettes in mind:

Benowitz NL, Burbank AD (2016) Cardiovascular toxicity of nicotine: Implications for electronic cigarette use. Trends Cardiovasc Med. doi: 10.1016/j.tcm.2016.03.001 [link][PDF]

Nicotine exerts pharmacologic effects that could contribute to acute cardiovascular events and accelerated atherogenesis experienced by cigarette smokers. Studies of nicotine medications and smokeless tobacco indicate that the risks of nicotine without tobacco combustion products (cigarette smoke) are low compared to cigarette smoking, but are still of concern in people with cardiovascular disease. Electronic cigarettes deliver nicotine without combustion of tobacco and appear to pose low-cardiovascular risk, at least with short-term use, in healthy users.

- Even if there is no risk, why did smoking and vaping come out the same? The Greek study was designed to try to equalise nicotine exposure from smoking and vaping - 5 minutes of smoking were compared to 30 minutes of vaping. So if nicotine is causing the arterial stiffening, then the observed effect would be likely to be the same as for tobacco, as this is *designed into the experiment*.
- What's wrong with just reporting the results? He went a lot further than reporting results. In making these claims to the media, Professor Vlachopoulos highlighted an entirely predictable and already-understood effect. His team calibrated the experiment so that the effect would be roughly the same in smokers and vapers. They then went on to falsely attribute a cardiovascular disease risk to this commonplace effect of stimulants. He then implicitly claimed that this effect was sufficient to equate vaping cardiovascular risk to smoking cardiovascular risk. The authors carefully avoided noting any of the established literature on nicotine cardiovascular risk, including the recent paper that addresses

this question explicitly in the context of e-cigarettes. Vlachopoulos then took this exercise in reckless ignorance into the media, which duly obliged with massively unscientific scare stories without the slightest critical push back.

- Did anyone back him? Someone serious-sounding from the British Heart Foundation compounded these multiple errors in a [comment to the Mirror](#) by affirming them and adding his own non-sequitur about 'e-cigarettes cannot be assumed risk-free' (something that is both a nonsense concept and literally no-one credible says):

Professor Peter Weissberg, Medical Director of the British Heart Foundation and one of Britain's most senior doctors, said: "The findings show that e-cigarettes have a similar effect to normal cigarettes on the stiffness of the main blood vessel in the body." He said the discovery was 'important' and warned it 'shows that e-cigarettes cannot be assumed to be risk free'.

- What about his policy prescriptions? Not content with spreading junk science, Professor Vlachopoulos, then [turns his hand](#) to policy prescriptions and implications that should flow from this...

Study leader Professor Charalambos Vlachopoulos, of the University of Athens Medical School, said the UK had 'rushed into' its promotion of e-cigarettes, adding: 'E-cigarettes are less harmful but they are not harmless. I wouldn't recommend them now as a method to give up smoking.'

- Are these ideas well-founded? Professor Vlachopoulos feels qualified to advise on smoking cessation and what he considers to be UK "promotion of e-cigarettes" - which is actually a carefully nuanced approach that he may not be fully conversant with. He has no scientific basis for making these recommendations, as above, and has [no relevant experience](#) in smoking cessation or tobacco policy, and, of course, repeats the 'not harmless' non-sequitur. In proffering this advice, one wonders what advice he would give to live smokers or vapers: should anyone who has quit using e-cigarettes return to the safety of smoking? And what of the 2.3 million UK and 8.3 million US current vapers? Should they stop, return to smoking and start again with some other sort of smoking cessation approach? I don't know, but I do know his baseless policy

assertions received not even a cursory challenge.

- Have tobacco control leaders put him right? Of course, tobacco control's top fanatics are gleeful (e.g. [here](#) and [here](#)) compounding and amplifying these academic errors and jacking up the misleading hyperbole, which is now their primary function.

What is going on?

So...

- ...an academic goes to a conference casually tosses a wild exaggeration into the media that has no basis in reality or even in his actual work.
- He creates deeply misleading headlines (with some additional contributory negligence from journalists) that are likely to divert smokers from a potentially life-saving behaviour change and create anxiety or promote relapse among vapers.
- He promotes wider confusion about the perception of risk that rubs off on policy makers and health professionals.
- He detracts from careful efforts to address the wide gulf in relative risk perceptions and reality we have in the UK and almost everywhere.
- He fails to correct the story in the news or make any counter-statement to restore balance.
- He hands propaganda lines to academic activists that will amplify its malign impact.
- He asserts policy advice that has no foundation in either his work or anywhere else and that is beyond his professional competence.
- Through his cavalier negligence, he has protected the cigarette trade, promoted smoking and probably caused more cases of death and disease.

I recognise that his work and this interpretation is easily dismissed by even the most elementary analysis (as above). But in terms of impact on society, this single incident, magnified to thousands of times its rightful significance in the British press, could easily outweigh and negate the entire career impact of many careful, responsible academics. It is the anti-vaxxer model of science, and it is appalling.

Accountability? I am pretty sure he will not face any reckoning or accountability or even the mildest rebuke from his peers, who will simply not see it as their responsibility or care insufficiently about the consequences, or who are too timid

to engage. On the contrary, his media 'success' will be high-fived by his colleagues, institution, funders, his wretched 'learned society' and the conference organisers/sponsors - thus ensuring it happens again and keeps happening. It's not as if this is an isolated incident within tobacco policy or elsewhere in public health. Here is almost the same story from June 2016: [Professor Stanton Glantz makes an irresponsible and baseless claim about vaping risks.](#)

A failing system. My view is that this is just another surface manifestation of a parasitic and malfunctioning academic public health system in which there are powerful perverse incentives to behave irresponsibly [for example, funders' hunt for 'impact', conflicted sponsors, personal ego and prestige, ideology and virtue signalling, group-think and group loyalty], but with minimal checks and balances, or any accountability for the consequences. Being a system problem, these failing needs a system response - not just isolated blogs writing the counter case. I hope there is someone out there thinking and worrying about this, because the public that is funding public health academia as both taxpayers or charitable donors is, overall, getting a really rotten deal.