Anatomy of a public health tweet

written by Clive Bates | 1 October 2016



Professor Capewell is worried – but why?

Professor Simon Capewell, the Vice President of Health Policy at the Faculty of Public Health, states in a tweet on 30 September 2016.

> *Vaping adverts could lead children to try smoking cigarettes*

But how true is that? And how much care did Professor Capewell take to ensure that it is a reasonable thing to say? Let us examine:

1. How wrong is Professor Capewell's tweet?
2. How much blame is attributable to the study authors?
3. In conclusion: what should we make of this tweet?

1. How wrong is Professor Capewell's tweet?

The tweet links to an article published in *The Daily Star* – Vaping adverts could lead children to try smoking cigarettes, claims study – from 8 September. *The Daily Star* is a low rent mass circulation British tabloid. I don't wish to be snobbish (I like *The Star*), but let's just say it is not my first port of call for scientific insight. American readers, think *National Enquirer*.

What is in the tabloid story? It's obvious that someone has had to work hard to get to that headline because *The Star's* journalist at least has the integrity to include the following quote from the lead author of the study in the story (emphasis added):

> *"While we can be optimistic that the adverts don't seem to make tobacco smoking more appealing to young people, they do appear to make occasional smoking seem less harmful."*

Oh dear, that seems to blow the story out of the water. If only Professor Capewell had even just read the tabloid story properly, he would have found enough reason to doubt the headline and to look more closely.

It seems a speculative mechanism about occasional smoking is required to reach the headline (I shall return to this). But the real findings actually say the opposite – something that any responsible commentator could confirm by looking at the study itself, which is easily done.

What does the actual study say? The study in question (if one bothers to look) is rather less bullish than *The Daily Star*. *The Star's* article to refers to the following study from January 2016 (and lead author Milica Vasiljevic is quoted in the story).

> *Vasiljevic M, Petrescu DC, Marteau TM. Impact of advertisements promoting candy-like flavoured e-cigarettes on appeal of tobacco smoking among children: an experimental study. Tob Control. 2016 Jan; [PubMed][link]*
>
> *Exposure to either set of adverts did not increase the appeal of tobacco smoking, the appeal of using e-cigarettes, or susceptibility to tobacco smoking. Also, it did not reduce the perceived harm of tobacco smoking, which was high.*

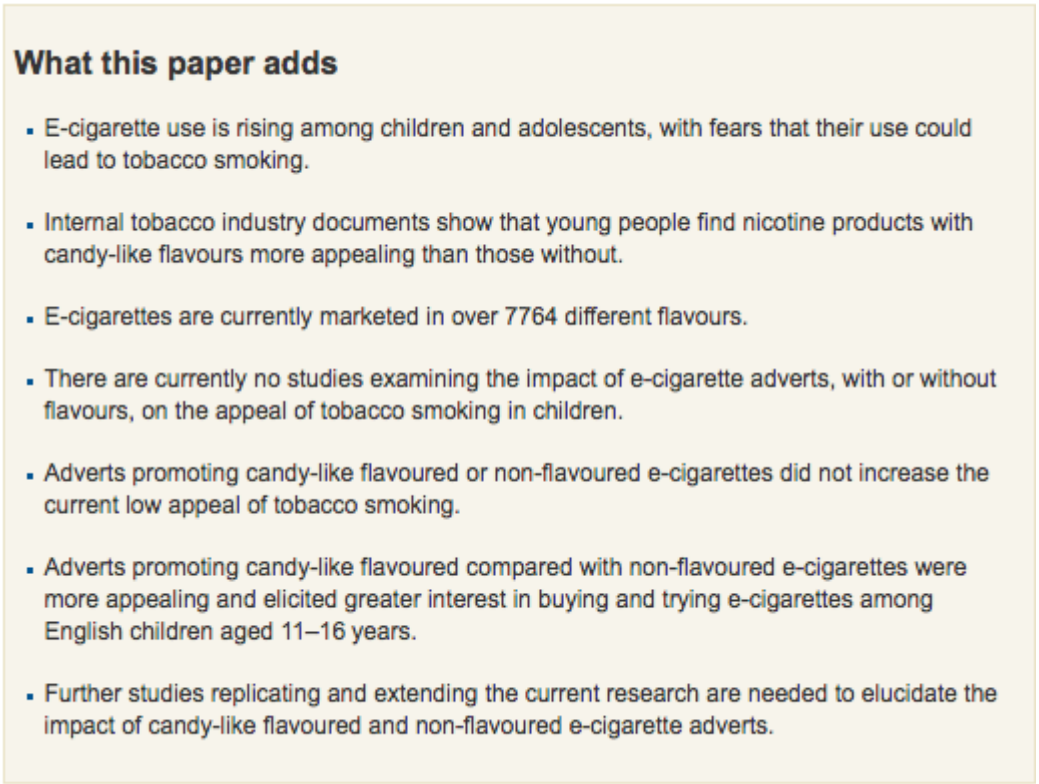
> *Exposure to adverts for e-cigarettes does not seem to increase the appeal of tobacco smoking in children. Flavoured, compared with non-flavoured, e-cigarette adverts did, however, elicit greater appeal and interest in buying and trying e-cigarettes.*

Oh dear. Even a cursory check on the abstract of the paper should have warned Professor Capewell that he was about to commit a serious error and his tweet is **TOTALLY WRONG**.

2. How much blame is attributable to the study authors?

The authors do seem disappointed by this conclusion, but nowhere in the abstract or full paper do they report that vaping adverts could "*lead children to try smoking*". So where did this story about occasional smoking come from?

We will come to that. But first, note how they summarise their work in the full paper:



What this paper adds

- E-cigarette use is rising among children and adolescents, with fears that their use could lead to tobacco smoking.
- Internal tobacco industry documents show that young people find nicotine products with candy-like flavours more appealing than those without.
- E-cigarettes are currently marketed in over 7764 different flavours.
- There are currently no studies examining the impact of e-cigarette adverts, with or without flavours, on the appeal of tobacco smoking in children.
- Adverts promoting candy-like flavoured or non-flavoured e-cigarettes did not increase the current low appeal of tobacco smoking.
- Adverts promoting candy-like flavoured compared with non-flavoured e-cigarettes were more appealing and elicited greater interest in buying and trying e-cigarettes among English children aged 11–16 years.
- Further studies replicating and extending the current research are needed to elucidate the impact of candy-like flavoured and non-flavoured e-cigarette adverts.

How did the study authors approach their work? This "what this paper adds" section is quite revealing:

- "*...with fears that [e-cigarette] use could lead to tobacco smoking*". Their paper does not add this, they just refer to vague evidence-free 'fears' (whose fears? why are they afraid?) that have never been substantiated, only asserted. Their paper amusingly goes on to show these fears are baseless as far as e-cigarette advertising is concerned.
- "*Internal tobacco industry documents...*". Ah yes, Big Tobacco. That would be the Big Tobacco that doesn't sell anything that can be construed as childish. They have not conducted a study of tobacco industry documents and they refer to 'nicotine products' to apply to e-cigarettes when any tobacco industry documents on this subject refer to tobacco, not e-cigarettes.
- "*E-cigarettes are marketed in over 7764 flavours*". They use an absurdly precise figure but it is designed to create a logical flow from the previous two statements.

This statement is revealing because it serves as an accidental conflict of interest disclosure, revealing the authors' prior beliefs and mindset, notably their chosen framing of the issue. It tells me they were not neutral investigators, but were looking for a link between e-cigarette advertising and smoking.

But they have to accept that their hoped-for zinger of a survey has not come up with any ammunition. It seems kids are not daft and don't just see an e-cigarette advert and think of taking up smoking. That should be a completely unremarkable finding given any familiarity with how normal people of any age think. So where did this story come from?

So what about the occasional smoking argument? As it turns out, for anyone looking for bad news about e-cigarettes there is some good news that can be salvaged from the study. The lead author's clutched at a straw in referring to occasional smoking. As Vasiljevic is quoted in *The Star:*

> *[e-cigarette adverts] do appear to make occasional smoking seem less harmful*

Quite why this might be the case is unclear. But from this observation it is implied that by reducing the fear of occasional smoking there lies the path to the mythical gateway from e-cigarette ads to young people smoking.

Only let's take a look at what the study itself has to say about their measurements

of attitudes to occasional smoking. They tried three measures of attitude to smoking-related harm: (1) general smoking harm to health; (2) harm of heavier smoking (>10/day) and; (3) harm arising from smoking "one or two cigarettes occasionally".

> ***Perceived harm of smoking tobacco cigarettes***
> *This was measured using three items developed by Wakefield et al: [28] 'Smoking can harm your health' rated from 1=Strongly disagree to 5=Strongly agree, 'How dangerous do you think it is to smoke more than 10 cigarettes a day?', and 'How dangerous do you think it is to smoke one or two cigarettes occasionally?' both rated on five-point scales, 1=Not very dangerous to 5=Very dangerous. The inter-item reliability was low for this scale (α=0.53). We therefore assessed this using the composite score and separately just the first item which has been most often used in the literature.*

That means they discarded the results about occasional smoking as too unreliable to use in isolation. This is what they said in the results:

> *Since reliability analyses of the perceived harm of smoking tobacco cigarettes showed that item reliability for the scale was low, we also analysed the single item that is most often used in the literature; 'Smoking can harm your health'.*

As a result, the study itself doesn't say *anything* about attitudes to occasional smoking. So what are we to make of Dr Vasiljevic's quote to The Star reporter: "*[e-cigarette adverts] do appear to make occasional smoking seem less harmful*"? To me it seems unethical to talk about data that were not reported to a tabloid journalist to support the point of view you appear to have held from the outset.

A more realistic conclusion: to the extent that e-cig ads do encourage e-cigarette use by teenagers by raising interest in trying them, such ads would be more likely to be *diverting* teenagers from smoking. By the way, the study doesn't show that ads do actually work in this way because the outcome measures are changes in *attitudes*, not behaviours.

3. In conclusion: what should we make of this

tweet?

- This is highly misleading and false spin tweeted by a vocal and opinionated anti-vaping academic who serves as the Vice President for Health Policy at the Faculty of Public Health.
- It is based on a story placed in one of the UK's more raunchy tabloids, but even the story itself contradicts the tweet by Professor Capewell.
- The story bears no resemblance to the underlying study, which says the opposite – that e-cigarette advertising does not affect attitudes to smoking.
- One of the study authors appears to have used discarded and unreliable results from the study to spin a story in *The Daily Star*. If so, that is disreputable and unethical.
- The authors' spin would be contributory negligence, but it does not absolve Professor Capewell of his responsibility to respect basic academic and communications disciplines, especially give the authority embodied in his position.
- The abstract and full study are both easily available for fact-checking by any responsible, capable academic, or anyone representing a credible institution with concern to uphold its reputation.

I really think it is time for either a purge at the Faculty of Public Health or for the institution to close down because it has become an embarrassment. It certainly should not be in receipt of public money or charitable funds if this is its attitude to scientific integrity. I get the feeling some of them treat this as a big game in which they are competing to be clever and witty – but it isn't game and they are neither clever or witty.

[Note: this is may have been timed to coincide with the new Committee on Advertising Practice consultation on e-cigarette advertising, launched the day before.]