

# New Zealand E-cigarette trial in Lancet - keeping it in perspective

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A New Zealand randomized trial of e-cigarettes just published in the prestigious Lancet journal has been touted in the media as showing how good e-cigarettes are for people wanting to quit smoking. This is overstating the study findings. And to be fair to the authors, overstating their conclusions too.

So what did the study find? No statistically significant difference in abstinence at 6 months.

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## Electronic cigarettes for smoking cessation: a randomised controlled trial

Christopher Bullen, Colin Howe, Murray Laingman, Alayden McRobbie, Vensha Parag, Jonathon Millman, Natalie Walker

21 out of 289 people randomised to e-cigarettes were abstinent at six months, or 7.3%. This compares to 17 out of 295 people randomised to nicotine patches, or 5.8%. The difference in percentage points was 1.51%, with a 95% confidence interval of -2.49% (yes, negative) to 5.51%. That is, a non-significant study finding.

Although conversely, one can conclude that e-cigarettes were at least as effective as patches, meaning they might have a place in cessation.

Similarly, the difference for 'real' e-cigarettes compared with placebo e-cigarettes (six month abstinence 4.1%) was 3.16%, with a 95% confidence interval -2.29% to 8.61%.

Null findings are important in research. This study, though, due to lower than expected quit rates in all arms of the trial was under-powered to find statistically significant differences in the primary study outcome.

What Bullen and colleagues do conclude, and I agree with, is that:

*E-cigarettes, with or without nicotine, were modestly effective at helping smokers to quit, with similar achievement of abstinence as with nicotine patches, and few adverse events. Uncertainty exists about the place of e-cigarettes in tobacco control, and more research is*

*urgently needed to clearly establish their overall benefits and harms at both individual and population levels.*

There are real risks that e-cigarettes may just allow people to keep smoking real tobacco, as they can use e-cigarettes at work and the pub – then smoke the real stuff elsewhere. Conversely, maybe they are a useful cessation or substitution device. If people truly do use only e-cigarettes, the likely harm is an order(s) of magnitude less than smoking tobacco.

But the balance of harms and benefits is still very much unknown. Especially when you inject the fact that tobacco companies are buying e-cigarette companies and marketing them as sexy... flashback 1950s, and all the Machiavellian antics of the tobacco industry since.

In the meantime, we have a goal of a tobacco free New Zealand by 2025 – often interpreted as a prevalence less than 5%. And we know that other policies do work, and do not hand control over to the tobacco industry. Namely tax, mass media, Quit lines and such like.

We will need more drastic action on tobacco in due course, as we approach 5% prevalence of smoking. It will include ongoing large increases in tobacco tax. It might include large scale reduction of retail outlets. It might include limiting the import quotas of tobacco at the New Zealand border. It might include licensing of smokers (and retail outlets). It might include regulating the removal of nicotine from cigarettes to reduce their addictiveness. It might include removing artificial sweeteners from cigarettes. And it might include supplying alternative nicotine delivery systems that are safer for smokers, but still give the nicotine hit – like e-cigarettes.

It almost certainly will be some combination of all these options. We urgently need more and bigger research such as that by Bullen and co to help map out this road to the end of tobacco. And we also need careful judgment and interpretation. Onwards.

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