

Viewpoint

Public health leadership and electronic cigarette users

The recent study by Goniewicz and colleagues¹ points to the increasing popularity of electronic cigarettes among people who want to quit smoking, adds to the growing scientific evidence about their real-world use and in turn raises questions about their potential to reduce smoking-related disease.

Smoking is the leading cause of preventable death and disease globally, associated with nearly 6 million deaths annually; in the European Union smoking rates average 29% of the adult population, with 700 000 premature deaths each year. Most smokers want to quit smoking but find it hard to give up nicotine. Progress with reducing smoking continues, but the pace is slow. It is hard to see how the current non-communicable disease burden can be met without a drastic reduction in smoking prevalence. It is also hard to see how that can come about with current anti-smoking measures. The package of interventions in the European Tobacco Products Directive, including large health warnings and bans on small packs, is on the evidence of the European Commission's own impact assessment likely to reduce tobacco consumption only by ~2% over 5 years, which translates into ~0.5% decline in prevalence in that time. Elsewhere, similarly modest historical gains have been demonstrated: graphic warning labels, introduced in Canada in 2000, are estimated to have helped reduce smoking prevalence by between 2.87 and 4.86% over 9 years, i.e. between 0.32 and 0.54 per annum.² The contribution of conventional treatment interventions to reducing population prevalence of smoking appears negligible: in randomized controlled trials, nicotine replacement therapy (NRT) improves the chances of quitting, but in the real world of consumer self-initiated quit attempts, NRT confers no advantage over stopping without any aid.³ The jury is still out on whether NRT has had a measurable population-level impact. Population level declines in smoking are important but modest, and few could agree that the pace of reduction in smoking is fast enough. This means that countries face continued smoking-related morbidity and mortality for many decades.

Where conventional 'quit smoking' approaches have lingered, electronic cigarettes are an attractive alternative to tobacco cigarettes for established smokers who are unable or unwilling to give up nicotine. The available evidence in this fast-moving scientific field indicates that electronic cigarettes do not raise serious health concerns and the science suggests that electronic cigarettes are many times safer than the smoked tobacco against which they are competing.⁴ They are clearly popular among smokers and ex-smokers: in a short time there has been remarkable uptake in their use, with an estimated 7 million users in Europe and 1.3 million in the UK; in the USA, the value of sales is roughly doubling each year, from \$20 million in 2008 to an estimated \$1000 million in 2013. In the UK, Robert West's Smoking Toolkit data show that electronic cigarettes have overtaken both NRT and health service stop smoking clinics as the most common resource used by people who want to stop smoking, with one in three quit attempts now involving the use of electronic cigarettes. Tobacco sales are declining, in part attributed to the rise of e-cigarettes, and the US stock market analysts estimate that e-cigarettes will overtake tobacco sales within 10 years.

Trial results suggest that electronic cigarettes are at least as effective as NRT in a randomized controlled trial. However, RCT data alone are an insufficient basis for public health planning. An intervention needs to be effective, acceptable and capable of being adopted on a mass scale at low cost. If data on effectiveness and popularity turn out to be true in the longer term, electronic cigarettes could be a more effective intervention at a population level than other stop-smoking initiatives.

The rise of the electronic cigarette is a consumer-led self-help public health movement, mostly spread by word of mouth, social media and direct point of sale advice at e-cigarette shops, with, until recently, little mass marketing. What other public health initiative could claim so many 'converts' in such a short time? This consumer public health movement is all the more remarkable because it has not used health care resources. It has not been a cost to taxpayers—being paid for by the consumer. This consumer-led public health initiative has all the hallmarks of what public health hopes to achieve.

The core public health mission is to prevent disease, prolong life and promote health. Good public health initiatives work with individuals and communities. The WHO Ottawa Charter for Health Promotion states 'Health promotion is the process of enabling people to increase control over, and to improve, their health... People cannot achieve their fullest health potential unless they are able to take control of those things which determine their health'.⁵ This seems to be exactly what electronic cigarette consumers are doing—taking control of things that determine their health. So it is also remarkable that this trend in electronic cigarette use has had little support from public health experts. Public health has yet to engage with this new movement. In many countries the medical and public health response has been negative and overprecautionary. The reasons for this are complex, but for people who have dedicated their lives campaigning against smoking and for an end of the tobacco industry it seems hard to accept that this disruptive innovation might be a solution to smoking. The caution exhibited by public health experts has led to a chasm between them and consumers: evidenced by comments on social media, many e-cigarette consumers see public health as the enemy of health and consumer choice. This should be cause for sober reflection by public health professionals and is an extraordinary situation that needs to be remedied from both sides to maximize the public health potential of safer alternatives to smoking.

Conflicts of interest: Member of the UK National Institute for Health and Care Excellence guidelines development group on tobacco harm reduction; Director of K.A.C., a company that in 2012 received a smoking research feasibility grant from a company developing a nicotine delivery device.

References

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doi:10.1093/eurpub/cku049