

Letters To the Editor

Vaping: 10 frequently asked questions

DEAR EDITOR: The Thoracic Society of Australia and New Zealand (TSANZ) is the peak body representing almost 1600 respiratory specialists, allied health professionals and respiratory scientists across Australia and New Zealand. We note the article on 'Vaping: 10 frequently asked questions' in the June 2018 issue of *Respiratory Medicine Today* (pages 34 to 36). TSANZ advises health professionals with an interest in supporting patients to quit smoking to review the National Academies of Sciences, Engineering and Medicine (NASEM) report into e-cigarettes.¹

We draw attention to the following conclusions from the NASEM report that address each of the points in the article:

1. With respect to harm reduction, although the NASEM report accepts that completely substituting e-cigarettes for combustible tobacco reduces users' exposure to toxins and that this can result in reduced short-term adverse health outcomes, it also notes the lack of evidence around the possible harms of long-term e-cigarette use by smokers (dual users).
2. With respect to cessation, the NASEM report states 'Overall, there is limited evidence that e-cigarettes may be effective aids to promote smoking cessation'.¹
3. With respect to the risk of using e-cigarettes, we are pleased that the authors note that e-cigarettes are not risk free and we direct readers' attention to the substantial conclusions on this issue in the NASEM report.¹ As respiratory health professionals we are very concerned by the NASEM finding 'There is substantial evidence that e-cigarette aerosols can induce acute endothelial cell dysfunction, although the long-term consequences and outcomes on these parameters with long-term exposure to e-cigarette aerosol are uncertain'.¹ Respiratory disease takes many years to develop and this finding is as we would expect.
4. With respect to use by young people, the NASEM report concluded 'There is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults'.¹ TSANZ is currently developing a position paper on e-cigarettes.

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DEAR EDITOR: We thank Professor Glanville from TSANZ for his comments and welcome the opportunity to discuss the NASEM report, which was broadly supportive of vaping for tobacco harm reduction.

In regard to dual use (i.e. smoking and vaping), many studies have found that it is often a transition stage to quitting.² Furthermore, most studies show that dual use results in substantial reductions in cigarettes smoked and reduced exposure to toxins.³ Nevertheless, complete cessation of smoking is always the preferred goal. However, we do question the utility of the term 'dual use,' which is at present undefined and seems to range from people who smoke 99% of the time and vape 1% of the time to people who smoke 1% of the time and vape 99% of the time.

Although further evidence on effectiveness is needed, the NASEM report concluded that there is moderate evidence that daily e-cigarette

use helps smokers quit.¹ A more recent study provides strong support for this conclusion.⁴ Combining the effectiveness of daily vaping with its wide community reach is likely to result in an even greater population impact. Smoking rates were flat in Australia from 2013 to 2016 where vaping is banned, whereas a decline in smoking rates has accelerated in a number of other countries, such as the UK and US, that do allow vaping.

Research suggests that vaping may have some adverse effects on the lungs. However, regular vaping is rare among nonsmokers. The key question is whether vaping is less harmful to the lungs than the smoking it replaces. The evidence so far suggests it is much less harmful as would be expected due to differences in the chemistry of smoke and vapour.⁵

The conclusion by the NASEM that vaping increases the risk of subsequent smoking in young people who would not have smoked is controversial because it relies on observational data from which causality cannot be inferred due to unmeasured confounding. It also conflicts with the clear evidence from large surveys that show that regular vaping by never-smoking young people is rare.⁶ A more plausible explanation for the association is a common predisposition to both behaviours.

It is important to note that the NASEM report confirmed that switching to exclusive vaping reduces exposure to numerous toxicants and delivers short-term health benefits and that modelling found an overall public health benefit.¹ A recent report from the Science and Technology Committee of the UK House of Commons was also very positive about vaping.⁷

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References

1. NASEM. Public health consequences of e-cigarettes. Washington, DC: NASEM; 2018. Available online at: <http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx> (accessed September 2018).
2. Farsalinos KE, Romagna G, Tsiapras D, Kyrzopoulos S, Voudris V. Characteristics, perceived side effects and benefits of electronic cigarette use: a worldwide survey of more than 19,000 consumers. *Int J Environ Res Public Health* 2014; 11: 4356-4373.
3. O'Connell G, Graff DW, D'Ruiz CD. Reductions in biomarkers of exposure (BoE) to harmful or potentially harmful constituents (HPHCs) following partial or complete substitution of cigarettes with electronic cigarettes in adult smokers. *Toxicol Mech Methods* 2016; 26: 443-454.
4. Berry KM, Reynolds LM, Collins JM, et al. E-cigarette initiation and associated changes in smoking cessation and reduction: the Population Assessment of Tobacco and Health Study, 2013-2015. *Tob Control* 2018 Mar 24; [epub ahead of print].
5. Polosa R. Electronic cigarette use and harm reversal: emerging evidence in the lung. *BMC Med* 2015; 13: 54.
6. Farsalinos K, Tomaselli V, Polosa R. Frequency of use and smoking status of US adolescent e-cigarette users in 2015. *Am J Prev Med* 2018; 54: 814-820.
7. Commons Select Committee. Government missing opportunity with e-cigarettes. 2018. Available online at: www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/news-parliament-2017/e-cigarettes-report-publication-17-19/ (accessed September 2018).