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Dear Senators,

Thank you for the opportunity to make this submission to the Inquiry on the Therapeutic Goods and Other Legislation Amendment (Vaping Reforms) Bill 2024.

My name is Riccardo Polosa and I am full tenured professor of Internal Medicine at the University of Catania (Italy). In 2001, I established the first smoking cessation center in Sicily and have carried out research studies on smoking behavior and health impact of cessation since then. Since 2010 I have carried out research on nicotine vaping products and have published more than 150 studies in peer-reviewed journals. My research team published the first randomized controlled trial of the efficacy of e-cigarettes in 2013.

Tobacco harm reduction seeks to prevent or reduce the damage caused by the toxins generated by tobacco combustion for smokers unable or reluctant to stop, rather than aiming at complete abstinence from nicotine use.

Following are some findings from our research and some policy recommendations. I am happy for my submission to be public and be published on the internet.

Effectiveness

We conducted the world's first randomised control trial on nicotine vaping for smoking cessation in 2013. [1] In a trial of 300 smokers not intending to quit, using first generation vaping products, we found:

- "Switching to e-cigarettes resulted in significant smoking reduction and smoking abstinence with a substantial number of quitters (26.9%) still using these products by week 52."
- "In view of the fact that subjects in this study had no immediate intention of quitting, the reported overall abstinence rate of 8.7% at 52-week was remarkable."

Since then, the effectiveness of nicotine vaping products as a smoking aid has also been established in many randomised controlled trials [2] and numerous real-world studies. They are more effective than nicotine replacement therapies and are at least as effective as the most effective stop-smoking pill, Champix. [3]

Safety

Nicotine vaping products have been established as substantially safer than smoking in comprehensive reports, such as by the UK government's Office for Health Improvement and Disparities[4], the US National Academies of Sciences, Engineering, and Medicine [5] and the Royal College of Physicians. [6]

These products, although not completely risk-free, offer an alternative to quit or die. As a practicing physician and head of one of the most active smoking cessation clinic in Italy, I advise smokers who are unable or unwilling to quit (as well as smokers intending to quit who categorically refuse taking antismoking medications) to at least consider trying substitute products. Our research in patients with COPD patients [7], asthma [8], high blood pressure [9], schizophrenia [10] show clear benefits with objective evidence for harm reversal after switching from smoking.

Our research also showed that lung function and respiratory symptoms [11] and muco-ciliary clearance [12] improve after switching from smoking to vaping. Another study of non-smokers who vaped found no significant negative health outcomes after 3.5 years. [13]

Youth vaping

In a study on youth vaping in the US, we examined data from the National Youth Tobacco Survey in 2015. [14] We concluded

- "Although there is reasonable concern about the recent increase in ever and past 30-day e-cigarette among U.S. youth, the data reported here show that the majority of e-cigarette use is experimental or infrequent, while regular use is minimal, among never smokers."
- "Frequent use was rare (only 1.7% of all participants) and the majority of those using e-cigarettes were already smoking tobacco cigarettes."

We also reviewed the 2016 Surgeon General report which concluded e-cigarette use among youth and young adults is becoming a major public health concern in the United States of America [15]. Our review concluded

- "The U.S. Surgeon General's claim that e-cigarette use among U.S. youth and young adults is an emerging public health concern does not appear to be supported by the best available evidence on the health risks of nicotine use and population survey data on prevalence of frequent e-cigarette use."

In 2022, we reviewed the evidence for youth vaping in the US, and concluded [16]

- There was no evidence that vaping was a gateway to smoking.
- Most nicotine vaping products usage was infrequent and unlikely to increase a person's risk of negative health consequences. Furthermore, the majority of nicotine vaping products usage was among those who have previously smoked.
- There was a dearth of data on the long-term health implications of EC usage in adolescents and young adults.
- Although vaping has been linked to respiratory symptoms, they tend to be transient and of uncertain significance.

In 2019, we scrutinized the effect of vaping on respiratory health in a state-of-the-art review article and concluded [17]

- "This review article shows that although some potential effects on respiratory cell types can be shown in vitro, and low levels of chronic irritation of the respiratory tract can be anticipated at certain levels of vaping, these effects are much less than those of smoking. The clinical evidence confirms that ECs are unlikely to raise significant health concerns for the respiratory tract under normal conditions of use."

Our 2015 systematic review of the safety of e-cigarettes came to the following conclusions which appear to be still valid today [18]

- "Currently available evidence indicates that electronic cigarettes are by far a less harmful alternative to smoking and significant health benefits are expected in smokers who switch from tobacco to electronic cigarettes"
- "It is obvious that some residual risk associated with EC use may be present, but this is probably trivial compared with the devastating consequences of smoking"
- "Due to their unique characteristics, **ECs represent a historical opportunity to save millions of lives and significantly reduce the burden of smoking-related diseases worldwide**"

Regulation

Giving smokers an alternative with efficient and safer nicotine delivery means that they might prefer one of these products over deadly cigarettes. Nicotine vaping products are the most popular quitting aid and have proven effective as substitutes for smoking. Because they incur substantially less risk than smoking tobacco cigarettes, tobacco harm reduction will produce better outcomes at individual and at a population level.

On the contrary, a restrictive approach that severely limits access to harm reduction products within populations of consumers who currently smoke tobacco could be damaging to public health.

Public health is best served by making nicotine vaping products available as adult consumer products which smokers can readily access from retail outlets. They should be at least as easily accessible as tobacco cigarettes.

Access by young people should be restricted. There should be strict age verification on sale and harsh penalties and loss of licence for sales to minors. However, the harm from vaping by young people is likely to be small as most use is experimental and short term. Regular vaping is rare. There is also no good evidence that vaping causes young people to take up smoking.

I hope Australian policymakers will reconsider their national policies and facilitate access to nicotine vaping products for adult smokers.

Yours Sincerely
Prof. Riccardo Polosa

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