

E-Cigarettes and Cancer Report: A Clarion Call to Action

Vaping has become widespread in Australia, yet there is limited consolidated information about the potential harms. The Clinical Oncology Society of Australia (COSA)'s research report, *E-cigarettes and Cancer: A Qualitative Risk Assessment*, distils the current scientific knowledge on vapes as a cancer risk and is a clarion call for urgent action.

Report author and COSA Chair of Cancer Prevention, Professor Bernard Stewart AM said the report draws together different categories of research on e-cigarettes and their components, and references published peer-reviewed studies from Australia and overseas.

Professor Sabe Sabesan, President of COSA said, "Being a multidisciplinary body, COSA was uniquely placed to mobilise the necessary expertise, ranging from pharmacists and epidemiologists to thoracic surgeons and public health researchers, to assess this complex matter."

Professor Stewart said, "Considering all the findings presented in this report, from clinical monitoring, animal studies and mechanistic data, our assessment is that nicotine-based e-cigarettes are likely to be carcinogenic to their users. E-cigarettes are likely to cause lung cancer and oral cancer. We can't say how much."

E-cigarettes made their way to Australia in around 2008 and, although unapproved and unregulated, were marketed as a smoking cessation aid that was said by many tobacco industry funded proponents to be a safer alternative to cigarette smoking.

As made clear in a 2022 assessment by Cancer Council Australia, there is a vaping epidemic amongst young people. "E-cigarettes are known to be a gateway to smoking and hence cancer, but the extent to which they may cause cancer in their own right has not received attention," Professor Stewart said.

As inhaled by users, e-cigarette aerosol contains known carcinogens such as nitroso-derivatives of nicotine, benzene, formaldehyde and certain heavy metals. Carcinogen-related breakdown products are detectable in biological fluids from vapers who also manifest tissue changes aligned with cancer development. Tumour growth consequent upon DNA damage has been indicated by laboratory studies. There is at least one clear demonstration of cancer in experimental animals exposed to e-cigarette aerosol.

"The evidence was remarkably consistent across disciplines, dictating an unequivocal finding now, and decades before definitive proof may be available," Professor Stewart said.

The International Agency for Research on Cancer (IARC), an arm of WHO, has made evaluation of e-cigarettes as a carcinogenic hazard to humans a high priority for an IARC Monograph in the near future.

Mark Brooke, Chief Executive Officer of Lung Foundation Australia, Australia's leading health peak body and charity for lung health and a supporting organisation of the report said, "Our experience with smoking showed that fear of cancer motivates quitting among the over 50s, but not among teens. While reducing vaping among young people following their concern about cancer is unlikely, the report markedly increases pressure for further regulatory action at all levels."

Mr Brooke explained, “The recent federal vaping reforms have comprehensively addressed legal access and supply of vaping products. We now need to see all governments taking an active approach to monitoring and enforcement to ensure the policy achieves its goal of reducing access to vapes by young people. The added weight of the medico-scientific evidence implicating cancer because of vaping adds to the argument for strident action. At the very least, such evidence of the harm caused by e-cigarettes should generate additional community concern.”

From 1 July 2024 the legal supply of vapes in Australia was limited to pharmacists via prescription. On 1 October 2024 restrictions eased with pharmacies being permitted to sell vapes to those aged 18 years and over without a prescription.

Mr Brooke said, “We recognize that many pharmacists have concerns about stocking these devices, and while illegal supply remains, we are continuing to work on decreasing vaping rates. We've been engaging with professionals across various sectors to address this challenge collaboratively, and to ensure regulators and legal professionals are informed about the findings in this report.”

COSA will integrate the findings in this report with wider considerations relating to the availability and impact of e-cigarettes in Australia in a Position Statement on e-cigarettes to be published later this year.

– ENDS –

Some salient findings:

- 1 in 7 Australian adults and one third of 15-30-year-olds have used e-cigarettes, and prevalence among young people has been characterised as an epidemic.
- Vaping rates in Australia have tripled in the past four years, with one in five Australians having tried e-cigarettes, according to recent (2024) data from the Australian Institute of Health and Welfare.
- Smokers who attempt to quit using e-cigarettes and fail may go on to both smoke and vape, and there is evidence that ‘dual use’ may result in worse toxin exposure than smoking alone.
- E-cigarettes can deliver high nicotine levels to users, sometimes in higher doses than through smoking.
- In 2009, the US Food and Drug Administration (FDA) analysed two widely marketed e-cigarette products and reported the presence of tobacco associated chemicals that may be harmful to humans including known human carcinogens.
- Considering all findings presented in the report, from clinical and animal studies and mechanistic data, the assessment is that nicotine-based e-cigarettes are likely to be carcinogenic to their users. E-cigarettes are likely to cause lung cancer and oral cancer.

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About COSA

The Clinical Oncology Society of Australia (COSA) is Australia’s peak multidisciplinary society for health professionals working in cancer research, treatment, rehabilitation and palliative care. COSA is recognised as an activist organisation whose views are valued in all aspects of cancer care. We are allied with and provide high-level clinical advice to Cancer Council Australia.

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