Echoes of the Past: Are E-Cigarettes the New "Light" Cigarettes?

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Although marketed as harm reduction tools, electronic cigarettes (e-cigarettes) risk repeating historical public health failures and initiating a new wave of nicotine addiction. Recently, clinical practice guidelines are increasingly recognizing e-cigarettes as potential tools for smoking cessation. Certain professional societies adopt a harm reduction framework, considering these products as alternatives owing to their reportedly lower toxic content compared to combustible tobacco. However, scientific evidence for these recommendations remains insufficient, particularly regarding long-term effects, and should be critically examined alongside evolving tobacco industry marketing.

The 2021 European Society of Cardiology guideline acknowledges that e-cigarettes may assist smoking cessation, yet explicitly emphasizes the lack of evidence regarding long-term cardiovascular and pulmonary safety and warns against dual use.[1] Similarly, the European Society of Vascular Medicine's guideline on peripheral arterial disease advises against e-cigarettes as standard cessation tools due to the lack of long-term safety data; it offers only a weak (Class IIa, Level C) recommendation for short-term use aimed at facilitating cessation.[2] Moreover, the American Academy of Family Physicians notes that nicotine-containing e-cigarettes can improve short-term quit rates at 6 months; however, an observational cohort reported higher smoking rates among e-cigarette users at 12 months, while concerns persist regarding continued e-cigarette use and youth progression to combustible tobacco.[3] In contrast, the the World Health Organization's (WHO) position on e-cigarettes is unequivocal: e-cigarettes are addictive and not without harm, sustain nicotine dependence, are strongly associated with increased transition to cigarette smoking among adolescents, and induce long-term health effects.[4] The striking resemblance between the marketing of these products and historical tobacco tactics is particularly concerning. Decades ago, the industry promoted "filtered" and "light" cigarettes under the guise of harm reduction, tactics that caused millions of premature deaths worldwide. These so-called "less harmful" alternatives were later proven to substantially contribute to cardiopulmonary disease and cancer. Tobacco use, the world's most enduring preventable epidemic, continues to claim more than eight million lives each year.[4] Registry data from contemporary bronchiectasis cohorts show that chronic airway diseases rarely occur in isolation; cardiovascular and obstructive pulmonary diseases, often linked to long-term smoking, cluster in patients with more frequent exacerbations and worse outcomes.[5,6] Recent genetic enrichment analyses demonstrated a significant overlap between loci associated with smoking initiation and disease susceptibility and outcomes, indicating that smoking is a fundamental biological contributor rather than a purely behavioral exposure.[7] Moreover, a recent study on post-viral interstitial lung disease identified active smoking as an independent risk factor for persistent parenchymal abnormalities and functional limitations months after acute infection, underscoring that tobacco-related harm extends far beyond the acute phase.[8] These findings indicate a sobering possibility: unless regulatory action keeps pace, the gains secured through decades of tobacco control may be steadily eroded by a new generation of nicotine delivery systems.

Recent data from the United States show a decline in e-cigarette use among middle and high school students from 7.7% in 2023 to 5.9% in 2024, reflecting strengthened measures such as flavor restrictions and enforcement actions; this pattern is not mirrored in many other regions.[9] E-cigarette use among 13–15-year-olds in the WHO European Region is now among the highest globally, with recent reports describing an alarming increase in youth vaping despite progress in tobacco control.[10] Nevertheless, 87.6% of youth e-cigarette users in the United States report using flavored products, with fruit flavors predominating, underscoring their persistent appeal to adolescents.[11] Currently, the tobacco industry is attempting

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TABLE 1. Brand Preferences, Frequency of Use, and Flavor Use Among Current Adolescent E-Cigarette Users, National Youth Tobacco Survey 2024.

Domain	Category	Proportion (%)
Brand use	ELF Bar	36.1
	Breeze	19.9
	Mr. Fog	15.8
	Vuse	13.7
	JUUL	12.6
Frequency of use	Daily use	26.3
	Non-daily use	73.7
Flavor use	Flavored e-cigarettes	87.6
	Non-flavored e-cigarettes	12.4

to rehabilitate its image and ease regulation by investing in nicotine-delivery products such as e-cigarettes, heated tobacco products, and nicotine pouches. These efforts aim to expand market share among young people. Evidence consistently shows that flavored e-cigarettes strongly appeal to youth and remain the most common nicotine products they use. Fruit, menthol, and sweet or dessert flavors are popular within this age group. Their widespread use is linked to regulatory loopholes that make these products easily accessible and highly attractive to young consumers.[12] Recent studies demonstrated that adolescents commonly perceive e-cigarettes as less harmful, socially acceptable, and nonaddictive, beliefs that closely mirror long-standing tobacco industry narratives.[13] Beyond nicotine and respiratory toxicity, emerging case reports identify e-cigarettes as sources of heavy metal exposure, including clinically significant lead poisoning.[14]

Flavored versions of these products are designed to appeal to children and adolescents. Recent evidence indicates a rapid increase in e-cigarette use among youth, with a considerable proportion transitioning to combustible cigarette smoking. Consequently, nicotine dependence is developing at younger ages.[15] This pattern indicates a troubling possibility: the harms experienced by previous generations may again be perpetuated, as new cohorts are drawn into the cycle of tobacco use.

Given these concerns, we contend that e-cigarettes should be excluded from standard cessation recommendations in clinical guidelines. A multidisciplinary approach, free from industry influence and focused on safeguarding young people, remains the most effective way to preserve the hard-earned progress achieved in tobacco control.

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