

pluripotent stem cell-derived endothelial cells. *J Am Coll Cardiol*. 2019; 73(21):2722–2737.


5. Fetterman JL, Weisbrod RM, Feng B, et al. Flavorings in tobacco products

induce endothelial cell dysfunction. *Arterioscler Thromb Vasc Biol*. 2018;38(7):1607–1615.

6. Zare S, Nemati M, Zheng Y. A systematic review of consumer preference for

e-cigarette attributes: flavor, nicotine strength, and type. *PLoS One*. 2018;13(3):e0194145.

The Australian Approach to Tobacco Harm Reduction Is Even More Misguided Than the US Approach

 See also Dasgupta and Fiala, p. 759, and the *AJPH After FDA Vaping Guidance* section, pp. 771–789.

The recent US Food and Drug Administration (FDA) guidance for industry, “Enforcement Priorities for Electronic Nicotine Delivery Systems (ENDS) and Other Deemed Products,” is based on a flawed risk analysis.¹ The guidance emphasizes the small risks to youths while underestimating the huge benefits of tobacco harm-reduction for adult smokers. The net public health impact will most likely be negative.

The plan to prohibit flavored (other than tobacco and menthol) cartridge-based ENDS products has been prompted by exaggerated concerns about recent increases in youth vaping. Most youth vaping is temporary and experimental. Among never-smoking youths, regular vaping and nicotine dependence are rare. Most regular vaping is by young people who had already started smoking.² There is no good evidence that vaping is leading significant numbers of youths who would never have smoked to become regular smokers.³

There is also no good evidence that a ban would be beneficial. A ban may result in more young people smoking or vapers switching to tobacco or menthol vaping, upgrading to tank or mod

vaping products, or obtaining supplies from unregulated black markets. The concern about vaping ignores the more important rapid decline in US smoking rates among adolescents. The prevalence of cigarette smoking by high school students fell by an unprecedented 25% from 2018 to 2019.⁴ It is more likely that vaping is diverting young people from smoking. A ban may undermine this progress.

The products and flavors popular with youths are also popular with adults and play an important role in vaping initiation and continuation.⁵ Flavor bans will make vaping less appealing to adults and may prevent smokers from switching or increase relapse to smoking. These policies will have a significant impact beyond the United States in a world where more than a billion people smoke cigarettes and a billion people worldwide may die from smoking-related conditions this century.

The Australian approach to tobacco harm reduction is even more misguided than the US proposal. In Australia, it is illegal to possess or use nicotine liquid for vaping without a prescription from a medical practitioner.⁶ This amounts to a de facto ban: most doctors will not issue

prescriptions, as Australian health authorities do not endorse vaping. Maximum penalties for possession of nicotine liquid without a prescription are an A \$45 000 fine or two years imprisonment.⁶

Consequently in 2016 only 1.2% of Australian adults vape nicotine compared with current vaping rates of 3.2% in the United States and 6.3% in the United Kingdom.⁷ In Australia, which has the highest tobacco prices in the world, plain packaging, and strict tobacco-control laws, smoking rates have stalled since 2013. However, in the United States and the United Kingdom, the rate of decline has accelerated. It is likely that ENDS are a significant contributing factor to this decline.⁷

There are many unfortunate parallels with the war on drugs. The approach to vaping in many countries is no longer being driven by scientific evidence. Ideology, political considerations, moral values, vested interests, and financial issues all play

important roles. Like substance users, smokers and vapers have been demonized instead of engaged. Prohibition and bans in the war on drugs were ineffective, and they are likely to be ineffective for vaping.

The unintended consequences of the FDA proposal are likely to include a slowing of the decline in adult smoking rates, more adolescent smoking or cannabis use, adolescent vapers switching to tobacco or menthol vapes, and a thriving black market—the opposite of what is intended.

The more nicotine delivered by the vaping system, the faster smoking likely declines in adults but also the greater the theoretical risk of addiction for young people experimenting with vaping. *AJPH*

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CONFLICTS OF INTEREST

A. Wodak and C. P. Mendelsohn have never received payments from e-cigarette or tobacco companies. Both are board members of the Australian Tobacco Harm Reduction Association (ATHRA), a health-promotion charity. ATHRA has received unconditional funding for establishment costs from small Australian vape businesses but has not accepted vape industry funding since March 2019. C. P. Mendelsohn has received funding from Pfizer Australia, Johnson & Johnson

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REFERENCES

1. US Department of Health and Human Services. Enforcement priorities for electronic nicotine delivery systems (ENDS) and other deemed products on the market without premarket authorization. 2020. Available at: <https://www.fda.gov/media/133880/download>. Accessed February 20, 2020.
2. West R, Brown J, Jarvis M. Epidemic of youth nicotine addiction? What does the National Youth Tobacco Survey reveal about high school e-cigarette use in the USA? 2019. Available at: <https://www.queios.com/read/article/391>. Accessed February 24, 2020.
3. Kozlowski LT, Warner KE. Adolescents and e-cigarettes: objects of concern may appear larger than they are. *Drug Alcohol Depend*. 2017;174:209–214.
4. Centers for Disease Control and Prevention. Tobacco product use and associated factors among middle and high school students—United States, 2019. *MMWR Surveill Summ*. 2019;68(12):1–22.
5. Russell C, McKeganey N, Dickson T, Nides M. Changing patterns of first e-cigarette flavor used and current flavors used by 20,836 adult frequent e-cigarette users in the USA. *Harm Reduct J*. 2018;15(1):33.
6. Australian Tobacco Harm Reduction Association. The law. 2020. Available at: <https://athra.org.au/vaping/the-law>. Accessed February 27, 2020.
7. Mendelsohn C, Hall W, Borland R. Could vaping help lower smoking rates in Australia? *Drug Alcohol Rev*. 2020; dar.13039.