



ASAM American Society of
Addiction Medicine

Public Policy Statement on E-Cigarettes

Background

The smoking of combustible cigarettes (“cigarettes”) is the leading cause of preventable death and disability in the United States. More than 480,000 people die each year from smoking cigarettes, many of whom live with significant disability prior to death; it is reported that smoking cigarettes kills over time 50% of the people who use them.^{1,2} There are more than 7,000 chemicals in the smoke created by lighting fire to tobacco leaves, more than 70 of which are carcinogenic to humans.^{3,4} Cigarette smoking also has a harmful effect on the U.S. economy with the total economic cost estimated to be more than \$300 billion dollars per year in lost productivity due to illness and death.¹

Currently, there are seven Food and Drug Administration (FDA)-approved medications to treat addiction to nicotine. Among those, five are nicotine replacement therapies (NRTs), such as nicotine gum, patch, lozenge, inhaler and nasal spray. There are also two non-nicotine pharmacological therapies approved by the FDA including the antidepressant bupropion and the medication varenicline tartrate. Varenicline and bupropion act in different ways at the sites in the brain affected by nicotine and may help people quit by easing withdrawal symptoms and blocking the effects of nicotine if they continue smoking. Medications for the treatment of nicotine use disorder overall are used to relieve withdrawal symptoms and reduce the enjoyment from smoking, and they are more effective when combined with behavioral therapy.⁵

E-cigarettes, or electronic cigarettes and Electronic Nicotine Delivery Systems (ENDS), are unregulated, battery-operated devices that contain cartridges filled with a liquid consisting of propylene glycol, glycerin, flavors, and nicotine extracted from the tobacco plant. Applying heat to the liquid creates vapor that is inhaled as a mist containing some of the flavoring, various levels of nicotine, and trace amounts of carcinogens.⁶ The flavoring agents and the propylene glycol and glycerin are regulated as food additives by the FDA when ingested by mouth, but not when inhaled in vapor or mist form.

There is great controversy over the potential effectiveness of e-cigarettes as a harm reduction strategy and for smoking cessation, and about the possible harmful health effects of inhaling nicotine vapor along with the above-mentioned additives contained in the liquid. Some experts support using e-cigarettes as a potential smoking cessation tool and harm reduction strategy, while others are concerned that the use of e-cigarettes perpetuates addiction to nicotine and exposes users to the currently unknown but plausible long-term health risks. Experts are particularly concerned about the dual use of e-cigarettes with combustible cigarettes since it may undermine efforts at cessation. Further,

the evidence on the benefits of e-cigarettes for smoking cessation is not yet established, and the long-term harms associated with e-cigarettes are not fully understood.

There is evidence that as tobacco use has decreased in the general population, it remains a large problem in minority groups, including those with low socioeconomic status and behavioral health comorbidity.⁷ Novel strategies are needed to reduce the huge burden of mortality and morbidity related to the smoking of cigarettes. Should a less harmful but acceptable nicotine delivery system be available and attractive enough to those cigarette smokers who are unwilling or unable to quit, then this might be justifiable to mitigate the huge medical and financial burden of addiction involving nicotine and smoking. The concern with the current situation is that e-cigarettes have largely not been tested or standardized, and products offered on the market are rapidly changing, making it difficult to assess true potential benefit for cessation or harm to the user in the long term. Available evidence suggests that harm from e-cigarettes is expected to be much lower than from combustible cigarettes, which are estimated to contain roughly one hundred times the amount of toxins.⁸ However, there are other risks associated with e-cigarettes, as there are reports of these devices spontaneously exploding, causing burns and other injuries to users. They are banned from airline flights for this reason. Finally, other modifiable forms or “mods” that rely on the use of refillable liquid nicotine solutions are at risk for contamination with other substances since the production and manufacturing of these products are not tested or regulated by any government agency or held to any standard.

The United Kingdom (UK) has taken an unequivocal, positive stance on the use of electronic cigarettes. Public Health England has encouraged smokers in the UK to switch to e-cigarettes claiming they are 95% less harmful to health than combustible cigarettes, and can be used with psychosocial smoking cessation services to help smokers quit tobacco all together.⁹ One important distinction, however, is that the UK has imposed strict restrictions and has licensed e-cigarette devices as medicines, which has not happened yet in the US. While the FDA deemed e-cigarettes as tobacco products and had announced rules to regulate them as of January of 2018, in July 2017 the FDA commissioner announced a delay in the implementation of those rules until 2023. The intent is to allow time to study the products and to stimulate improvements and innovation by small enterprises. To that end, the National Institute on Drug Abuse (NIDA) has developed a standardized e-cigarette prototype for research purposes, currently awaiting FDA classification and approval to be used as a smoking cessation device in research protocols.¹⁰

An additional concern is the still-unknown risk to young people who are currently major consumers of electronic cigarettes in the US. Although cigarette smoking continues to decrease among American teens, use of electronic cigarettes has been escalating and surpassed use of other forms of tobacco.¹¹ A study of middle and high school students found that, among those who were current users of tobacco products, an estimated 70.0% (3.26 million) had used at least one flavored tobacco product in the past 30 days.¹² The long-term effects of this are unknown. There are concerns that, as prevention efforts to educate children on the harms of tobacco in cigarettes had a positive impact on teen cigarette use, the tobacco industry has promoted alternative ways to attract teens to smoking by adding flavoring and engaging in direct advertising. These strategies coincide with the rise in e-cigarette use among youth, thereby increasing exposure and the potential for the development of addiction involving the use of nicotine. Lastly, there is a potential risk that e-cigarette use will be a gateway to subsequent

combustible tobacco and other drug use, including marijuana; however, research findings on such long-term effects will not be available for some time.

Recommendations

In light of these controversies and limited research evidence, the American Society of Addiction Medicine recommends:

1. That all substances and behaviors involved with addiction, including nicotine, be included in the care plan of treatment in any environment.
2. That the FDA Center for Tobacco Products accelerate the regulation of e-cigarettes, including the liquid, ingredients, and delivery system, that meet the definition of tobacco product.
3. That the FDA create rules that limit sales tactics that target children and young people, including flavors and cartoon themes, etc.
4. That the minimum legal age for sale of e-cigarettes and tobacco products be increased to 21 years.
5. That the use of e-cigarettes be prohibited in places defined by statute or regulation as tobacco-free environments.
6. That there be continued and increased research into the long-term potential for harms from the use of e-cigarettes and the component parts of the delivery system.
7. That research be expanded and accelerated on the potential for e-cigarettes to be used as a tool in the treatment of addiction involving nicotine or as a component of a comprehensive harm reduction strategy, especially for those unwilling or unable to quit the use of tobacco cigarettes or smokeless tobacco.

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