E-Cigarettes & Smoke-free Laws

ACS CAN's Current Views

E-cigarette use should be prohibited in all workplaces, restaurants, and bars.

ACS CAN advocates for comprehensive smoke-free laws in all workplaces to protect workers and the public from the harmful effects of secondhand exposure and to create communities that support tobacco-free living. Electronic cigarettes, or e-cigarettes, including supposed non-nicotine e-cigarettes, should also be prohibited in all workplaces, restaurants, and bars to protect against secondhand exposure to nicotine and other potentially harmful chemicals, to ensure the enforcement of existing smoke-free laws are not compromised, and that the public health benefits of a smoke-free laws are not undermined.

E-cigarette aerosol can contain nicotine and other potentially harmful chemicals.

E -cigarettes are typically battery-operated products designed to deliver a heated solution, or aerosol of nicotine and other chemicals, to the user. E-cigarettes can be disposable or consist of a rechargeable, battery-operated heating element; a replaceable or refillable cartridge that may contain nicotine, flavoring agents, and other chemicals (sometimes called "e-juices"); and an atomizer that uses heat to convert the contents of the cartridge into an aerosol that is inhaled by the user.[1]

A growing number of studies have examined the contents of e-cigarette aerosol. Unlike a vapor, an aerosol contains fine particles of liquid, solid, or both. Propylene glycol, nicotine, and flavorings were most commonly found in e-cigarette aerosol. Other studies have found the aerosol to contain heavy metals, volatile organic compounds and tobacco-specific nitrosamines, among other potentially harmful chemicals.[2,3] A 2009 study done by the FDA found cancer-causing substances in several of the e-cigarette samples tested.[4] Additionally, Food and Drug Administration (FDA) tests found nicotine in some e-cigarettes that claimed to contain no nicotine.

Chemicals identified in some e-cigarette aerosol include:

- Propylene glycol
- Nicotine
- Tobacco-specific nitrosamines
- Metals
- Volatile organic compounds
- Polycyclic aromatic hydrocarbons
- Flavorings

Firsthand exposure to the aerosol comes from personal use of an e-cigarette. Secondhand exposure occurs when the user exhales the aerosol, at which time, a nonuser can be exposed. The level of secondhand exposure to a nonuser will depend on a number of factors including the type of e-cigarette used, particle sizes in the aerosol, how the e-cigarette is used, and other environmental factors such as air flow and room size.

While the health effects of e-cigarettes are currently under study, there are still serious questions about the safety of inhaling the substances in e-cigarette aerosol. Studies have shown that the use of e-cigarettes can cause short-term lung changes and irritations, while the long-term health effects are unknown.[5] Both exposure to and health effects of secondhand aerosol from e-cigarettes require further research, but preliminary studies indicate nonusers can be exposed to the same potentially harmful chemicals as users, including nicotine, ultrafine particles and volatile organic compounds.[67] This exposure could be especially problematic for vulnerable populations such as children, pregnant women, and people with heart disease depending on the level of exposure.

Finally, it is important to establish the potential exposure and associated risks of e-cigarette aerosol to users and nonusers, in addition to comparing those risks to exposure to cigarette smoke, as several studies have done.

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E-cigarette use in workplaces, restaurants, and bars can undermine the public health benefits of smoke-free laws and compromise enforcement.

Tobacco users are not the only ones who breathe its deadly smoke—all the people around them are forced to inhale it too. Recognizing that there is no safe level of secondhand smoke exposure, 24 states and more than 673 localities have comprehensive smoke-free laws.[8] These laws not only protect nonusers from exposure to secondhand smoke, they also reduce the acceptability of smoking which reduces the number of people, especially youth, who start smoking and increases quit attempts by smokers. The increased protection and reduced acceptability have led to lower smoking rates and improved health status, including fewer heart attacks and cancers.[9]

The use of e-cigarettes in workplaces, restaurants, and bars can undermine the public health benefits that have been and continue to be achieved by smoke-free laws. E-cigarette users who continue to use cigarettes will not experience the health benefits of quitting, and nonusers can be exposed to their secondhand aerosol. Because some e-cigarettes are designed to look like cigarettes and cigars, the unacceptability of smoking in these places could be compromised which could lead to new users or a reduction in current users who quit. Additionally, from a practical standpoint, business owners can face difficulty when enforcing smoke-free laws if e-cigarette use is permitted because of their designs. These risks do not prevent some e-cigarette manufacturers from specifically marketing their products for use in places where smoking is prohibited.

E-cigarette use is on the rise and requires federal, state, and local action.

Since the introduction of e-cigarettes to the U.S. market approximately 7 years ago, the marketing and use of these products have increased.

- Youth: A study from the Centers for Disease Control and Prevention (CDC) found that e-cigarette use increased from 3.3 to 6.8 percent among middle and high school students between 2011 and 2012, resulting in an estimated 1.78 million youth who have tried e-cigarettes.[10]
- Adults: A study looking at data from 2010-2013 found an increase in the number of adults who have ever used e-cigarettes, from 3.3 to 8.5 percent. In 2013, 36.5 percent of current smokers had ever tried e-cigarettes, as compared to 79.8 percent of former smokers and 1.2 percent of never smokers.[11]

While e-cigarette manufacturers may claim the ingredients are just “water vapor” or “safe,” without federal regulation there is no sure way for e-cigarette users to know what they are consuming. Nor is there any way of knowing what nonusers are exposed to and the extent of the risk to their health. Additionally, there are hundreds of types of e-cigarettes on the market today and the products vary considerably by ingredients, and quality control and assurance. Prohibiting the use of e-cigarettes in workplaces, restaurants, and bars can protect the public health by preventing nonusers from being exposed nicotine and other potentially harmful chemicals in these products.

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1 U.S. Food and Drug Administration. E-Cigarettes: Questions and Answers. September 17, 2010. Available online at http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm225210.htm.
2 Cheng, T. Chemical evaluation of electronic cigarettes. Tobacco Control 2014; 23: ii11-ii17.
3 Goniewicx, ML et al. Levels of selected carcinogens and toxicants in vapour from electronic cigarettes. Tobacco Control 2014; 23:122-9.
4 U.S. Food and Drug Administration. Summary of Results: Laboratory Analysis of Electronic Cigarettes Conducted by FDA. July 22, 2009. Available online at http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm173146.htm.
5 Callahan-Lyon, P. Electronic cigarettes: human health effects. Tobacco Control 2014; 23: ii36-II40.
6 Saffari, A et al. particulate metals and organic compounds from electronic and tobacco-containing cigarettes: comparison of emission rates and secondhand smoke exposure. Environmental Science Processes & Impacts 2014; DOI: 10.1039/c4em00415a.
7 Flouris, AD et al. Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function. Inhalation Toxicology 2013; 25(2): 91-101.
8 American Cancer Society Cancer Action Network. How Do You Measure Up 2014. http://www.acscan.org/content/wp-content/uploads/2014/08/HDYMU-2014-Report.pdf
9 U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.
10 Centers for Disease Control and Prevention. Electronic Cigarette Use Among Middle and High School Students – Unites States – United States, 2011-2012. MMWR 2013; 62(35): 729-730
11 King, BA et al. Trends in Awareness and Use of Electronic Cigarettes among U.S. Adults, 2010-2013. Nicotine & Tobacco Research 2014; Advance Access: 1623-1627.