



# E-Cigarettes: Facts, Perceptions, and Marketing Messages

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Electronic cigarettes (e-cigarettes) are perceived as an alternative to standard tobacco cigarette smoking, primarily because of the e-cigarette industry's marketing messages. However, scientific studies about e-cigarette safety and efficacy remain limited. This column presents some of the issues associated with e-cigarette use, such as potential components of regulation, perceptions that e-cigarettes can help users quit smoking, and free-wheeling marketing strategies that include expanding e-cigarette use to young people. Nurses can be a reliable source of information about e-cigarettes.

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Electronic cigarettes (e-cigarettes) have become the latest focus of innovation, controversy, and public perceptions skewed by the marketplace in the arena of cigarette alternatives. Patented in 2003 and extensively promoted in the United States in the past few years, e-cigarettes are headed, by 2017, to become an estimated \$10 billion business. By comparison, U.S. conventional cigarette sales hit an estimated \$273.6 billion in 2011 (Gray, 2013).

The e-cigarette industry has positioned its marketing message, presenting e-cigarettes as a seemingly healthy alternative to nicotine-addictive cigarettes—the universally available, pervasive combustible nicotine-delivery device. Cigarette smoking remains one of the deadliest delivery vehicles associated with cancer-causing illnesses (Henry, 2013). But neutral-party or non-industry studies about e-cigarette safety and efficacy, as well as public and user perceptions grounded in fact, remain limited (Gray, 2013; Pearson, Richardson, Niaura, Vallone, & Abrams, 2012; Riker, Lee, Darville, & Hahn, 2012).

The components of an e-cigarette include an indicator light, rechargeable battery, vaporizer unit, cartridge, and mouthpiece (see Figure 1). The device is a means to heat liquid nicotine (with a combination of water, glycerol, propylene glycol, and flavorings) that vaporizes; the e-cigarette user can inhale and exhale the vapor. E-cigarettes do not contain tobacco, so they are not—to date—subject to U.S. tobacco laws and U.S. Food and Drug Administration (FDA) regulation. E-cigarettes, however, do contain nicotine, so they are a vehicle of nicotine dependence and, therefore, a clear target for regulation (FDA, 2013a).

## Regulation Ahead?

Few studies have been published documenting the true safety or health risks associated with e-cigarettes. Despite claims in the marketplace, not enough is known about e-cigarettes, their public health benefits, and/or their risks (FDA, 2013a; Riker et al., 2012).

In 2009, the FDA published one of the first seminal studies about e-cigarettes, identifying the carcinogens and toxic chemicals found in them—including diethylene glycol, a toxic ingredient in antifreeze. The report also found inconsistencies in e-cigarettes, with varying nicotine levels per puff and per cartridge. In addition, some e-cigarette cartridges that claimed to be nicotine-free had small amounts of nicotine when analyzed (FDA, 2009).

In September 2010, the FDA issued a number of warning letters to e-cigarette distributors for various violations of the Federal Food, Drug, and Cosmetic Act 4, including “violations of good manufacturing practices, making unsubstantiated drug claims, and using the devices as delivery mechanisms for active pharmaceutical ingredients” (FDA, 2010, p. 1).

Since then, the e-cigarette industry has attempted to self-police its claims with uneven consistency, so that e-cigarettes are not considered a drug-delivery device



FIGURE 1. Components of an E-Cigarette

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