



# Rhode Island Public Health Brief

## E-Cigarettes

### Rhode Island Experience

Smoking is responsible for 1800 deaths per year in the state of Rhode Island.<sup>i</sup> 17% of the state's population smokes and 53% have tried to quit according to a report on the state of State Health.<sup>ii</sup> In addition to cigarettes, smokeless tobacco, and newer nicotine delivery products have expanded the marketing portfolio. Electronic Nicotine Delivery Systems (ENDS) or E-Cigarettes, are one such new product introduced in the US in 2007.

### A Healthy Alternative??

E-cigarettes have been marketed as a safe alternative to quitting traditional cigarettes. However, two leading cancer research associations argue that there are insufficient data to determine the harm of electronic nicotine delivery systems, particularly the long term implications of inhaling the chemicals in this product. With ambiguity in the research of these products, further regulation and research are needed.<sup>iii</sup>

Additionally, no evidence exists to suggest E-cigarettes are a safe alternative to traditional smoking, as harmful substances appear to exist in this alternative form of smoking, according to the Navy and Marine Corps Public Health Center.<sup>iv</sup> Chemical levels vary widely and are released disproportionately across products. The nicotine levels listed on the product often differ from measured values.<sup>v</sup>

As a result many health advocacy associations, including the American Heart Association, have issued policy recommendations requesting stricter enforcements on the marketing and sale of E-cigarettes, stating that they may be a gateway to traditional smoking rather than an alternative.<sup>vi</sup>

In addition, accidental nicotine poisonings are on the rise. According to the American Association of Poison Control Centers, there has been an almost 14-fold increase in calls related to E-cigarette and liquid nicotine with the majority of them involving children under the age of six.<sup>vii</sup>

The US Food and Drug Administration has recently (May 2016) included e-cigarettes in the definition of a, "tobacco product," to be regulated according to the Family Smoking Prevention and Control Act, which prohibits sales to anyone under the age of 18.

### Smoking Cessation

E-cigarettes have also been marketed as a tool to aid in smoking cessation,<sup>iii</sup> and a small number of trials support the notion that E-cigarettes may help support smoking cessation long-term.<sup>viii</sup> However, due to the small number of trials, data are unclear as to how helpful they are to the smoker who wants to quit, especially in comparison to other cessation tools such as patches or other medications. Most concerning, is the use of E-cigarettes not to stop smoking, but to avoid the indoor smoking bans put in place to improve public health.<sup>ix</sup>

### Table I. What is an E Cigarette?

- The user inhales through a mouthpiece.
- Air flow triggers a sensor that switches on a small, battery-powered heater.
- The heater vaporizes liquid nicotine in a small cartridge (it also activates a light at the "lit" end of the e-cigarette). Users can opt for a cartridge without nicotine.
- The heater also vaporizes propylene glycol (PEG) in the cartridge. PEG is the stuff of which theatrical smoke is made.
- The user gets a puff of hot gas that feels a lot like tobacco smoke.
- When the user exhales, there's a cloud of PEG vapor that looks like smoke. The vapor quickly dissipates.

## At Risk Population

According to the RI Department of Health, in 2015 E-cigarettes were the mostly commonly used tobacco product (19.3%), surpassing regular cigarettes (4.8%), among high school students.<sup>x</sup> Without stringent public health laws governing the use of electronic nicotine delivery systems the marketplace is vulnerable for middle school and high school consumption.

With 141,959 public school students in Rhode Island,<sup>xi</sup> concerns are rising regarding the marketing of E-cigarettes and other emerging tobacco products. The available variety of candy flavors that appeal to younger populations is especially concerning.<sup>xii</sup> Exposure has penetrated to high school and middle school students, with trends indicating substantial increases in use.

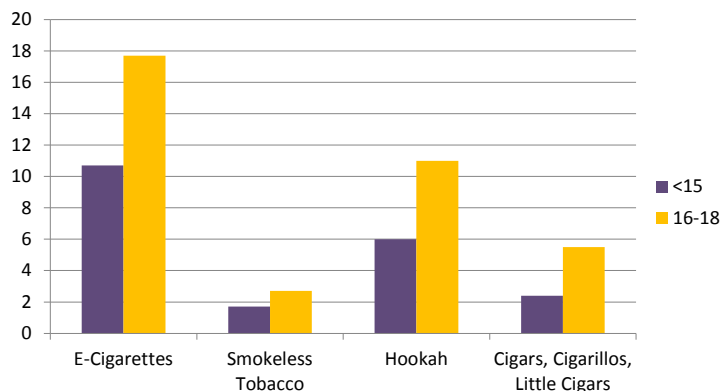
Nicotine is harmful to the developing adolescent brain.<sup>xiv</sup> Therefore, the nicotine adolescents may be exposed to while using E-cigarettes could have lasting consequences.

## Public Health Measures

As E-cigarettes and other new tobacco or ENDS products become available it is important to:

- Increase research on the potential risks of E-cigarettes and use in smoking cessation.
- Educate parents, teens and other consumers about new products and new data as it becomes available.
- Strengthen limitations on sales and access for all tobacco and ENDS products for youth.
- Be vigilant for marketing of all tobacco and nicotine products aimed at youth.
- Be wary of any reintroduction of tobacco or ENDS products into indoor spaces.

Figure 1. Proportion of adolescents who do not smoke conventional cigarettes by current use of emerging tobacco products



Data Source: Rhode Island Department of Health, Center for Health Data and Analysis, 2015 Rhode Island High School Youth Risk Behavior Survey weighted data file.

<sup>i</sup> [http://www.tobaccofreekids.org/facts\\_issues/toll\\_us/rhode\\_island](http://www.tobaccofreekids.org/facts_issues/toll_us/rhode_island)

<sup>ii</sup> The New American Foundation. The state of State Health <http://statehealth.newamerica.net/node/87>. Accessed 3/16/2015.

<sup>iii</sup> American Society of Clinical Oncology. ASCO AACR urge FDA to regulate all tobacco products. <http://www.asco.org/advocacy/asco-aacr-urge-fda-regulate-all-tobacco-products—including-e-cigarettesc>. Accessed 3/16/2015.

<sup>iv</sup> Navy and Marine Corps Public Health Center. Frequent Questions about Electronic Cigarettes.

[http://www.med.navy.mil/sites/nmcphc/Documents/health-promotion-wellness/tobacco-free-living/Frequent\\_Questions\\_about\\_Electronic\\_Cigarettes\\_March\\_2013.pdf](http://www.med.navy.mil/sites/nmcphc/Documents/health-promotion-wellness/tobacco-free-living/Frequent_Questions_about_Electronic_Cigarettes_March_2013.pdf). Accessed 3/16/2015

<sup>v</sup> Cheng T. To b Control 2014;23:ii11–ii17. doi:10.1136/tobaccocontrol-2013-051482, [http://tobaccocontrol.bmj.com/content/23/suppl\\_2/ii11.full](http://tobaccocontrol.bmj.com/content/23/suppl_2/ii11.full) Accessed 3/16/2015.

<sup>vi</sup> American Heart Association. AHA Issues E-Cigarette Recommendations. <http://newsroom.heart.org/news/american-heart-association-issues-e-cigarette-recommendations>. Accessed 3/16/2015.

<sup>vii</sup> Myers, M. (Press Release-1/13/15). Poisoning Calls About E-Cigarettes and Liquid Nicotine More than Doubled in 2014-FDA Must Act to Protect Kids. Campaign for Tobacco Free Kids. [http://www.tobaccofreekids.org/press\\_releases/post/2015\\_01\\_13\\_poisoning](http://www.tobaccofreekids.org/press_releases/post/2015_01_13_poisoning)

<sup>viii</sup> McRobbie H, Bullen C, Hartmann-Boyce J, Hajek P. Electronic cigarettes for smoking cessation and reduction. Cochrane Database Syst Rev. 2014;12:CD010216. doi: 10.1002/14651858.CD010216.pub2. Epub 2014 Dec 17.

<sup>ix</sup> Protano C, Di Milia LM, Orsi GB, Vitali M. Electronic cigarette: a threat or an opportunity for public health? State of the art and future perspectives. Clin Ter. 2015 Jan-Feb;166(1):32-7. doi: 10.7417/CT.2015.1799.

<sup>x</sup> Rhode Island Department of Health, Center for Health Data and Analysis, 2015 Rhode Island High School Youth Risk Behavior Survey weighted data file.

<sup>xi</sup> Info Work! Rhode Island Education Data Reporting. Advanced Report. <http://infoworks.ride.ri.gov/search/reports>. Accessed 3/16/2015.

<sup>xii</sup> American Society of Clinical Oncology. ASCO AACR urge FDA to regulate all tobacco products.

<sup>xiii</sup> Singh, T, Arrazola, RA, Corey, CG, et al., Tobacco Use Among Middle and High School Students-United States, 2011-2015. MMRW Morb Mortal Wkly Rep. 2016; 65:316-367. <http://www.asco.org/advocacy/asco-aacr-urge-fda-regulate-all-tobacco-products—including-e-cigarettesc>. Accessed 3/16/2015.

<sup>xiv</sup> U.S. Department of Health and Human Services (HHS), The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General, CDC, Office of Smoking and Health (OSH), 2014, <http://www.surgeongeneral.gov/library/reports/50-years-ofprogress/index.html>.