

# SUBSTANCE ABUSE PREVENTION

## PROFESSIONAL DEVELOPMENT

**PREVENTION FIRST**  
Building community capacity to prevent substance abuse

### FACT SHEET

## E-CIGARETTES: *JUST THE FACTS*

### What are E-Cigarettes?

E-cigarettes or ENDS (Electronic Nicotine Delivery Systems) are battery powered devices that allow users to inhale nicotine in the form of an aerosol/vapor. They are made to resemble cigarettes, pipes, and cigars. Some of the devices are being manufactured to resemble common items such as pens and USB flash drives. E-cigarettes can be disposable, rechargeable, pre-filled, or modified (tank style) allowing users to fill with their liquid of choice. They all contain a battery which heats a solution (e-liquid) commonly made up of propylene glycol and/or glycerin, nicotine, and flavoring agents.<sup>2</sup> There are a multitude of flavorings on the market including coffee, candy, baked goods and alcohol. When the liquid is heated it is turned into an aerosol. The user inhales and exhales the aerosol.



E-cigarettes and e-liquid are sold at mall kiosks, vape shops, and grocery stores as well as online.<sup>3</sup> The term “Vape” has become embedded into popular culture. In 2014, Oxford Dictionary announced their Word of the Year was “Vape”.

### Data trends – Illinois and Nationally

The 2014 National Youth Tobacco Survey shows a dramatic increase in the use of e-cigarettes among middle and high school students. From 2013 to 2014, e-cigarette 30-day use rate tripled to 13.4% of high school students and 3.9% of middle school students. The 2013 Illinois Youth Tobacco Survey, a sub-set of the National Youth Tobacco Survey, showed that six percent of Illinois high school students and one percent of middle school students used e-cigarettes.

E-cigarette usage has surpassed all other forms of tobacco product usage among school-aged youth.<sup>4</sup> The 2014 Monitoring the Future survey has shown that 17.1% of 12th graders nationally have used e-cigarettes in the past 30 days. This survey has also shown that e-cigarettes have a lower perceived risk for use than any other drug surveyed including alcohol.<sup>5</sup>

### Consequences of Using E-cigarettes

As of August 2016, the FDA extended its authority to regulate e-cigarettes and their components. The authority requires product health warnings as well as the banning of free samples. The rule restricts youth access by not allowing e-cigarettes to be sold to anyone younger than 18 and will not allow these products to be sold in vending machines accessible to youth. E-liquids are also subject to FDA authority.<sup>6</sup>



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Nicotine in any form is a dangerous and addictive drug. The 2012 Surgeon General's Report found that about 90% of all smokers first tried cigarettes as teens. Three of every four teen smokers continue into adulthood.<sup>7</sup> Data from the National Youth Tobacco Survey shows many youth are using e-cigarettes as their first experience with a tobacco product. E-cigarettes can contain nicotine. Nicotine usage during adolescence can be extremely harmful to brain development, can cause addiction, and may lead to sustained tobacco use.<sup>8</sup> Research has shown teens progress to dually using e-cigarettes and conventional cigarettes after the initial exposure to e-cigarettes. Dual usage increases the risk of greater levels of nicotine exposure.

E-liquid can contain ingredients such as propylene glycol. When heated, propylene glycol has been documented by the American Chemistry Council to cause eye and respiratory irritation. Certain studies have shown when e-liquids are heated they can emit heavy metals including tin, nickel, copper, lead, and chromium. E-cigarette aerosol can also contain varying levels of formaldehyde.<sup>9</sup> E-cigarette aerosol has not been proven safe for second-hand inhalation. Tank style and pen style e-cigarettes can be refilled with substances other than nicotine and e-liquid. Marijuana in the form of butane hash oil or wax/dabs can also be used in these devices. Refilling a device can also expose the user to a lethal dose of nicotine by absorption of spilled or leaked liquid through the skin.<sup>10</sup>

Many big tobacco companies have become invested in the e-cigarette market. Viral videos along with other social media has saturated youth with e-cigarette advertising. Currently e-cigarette companies are able to advertise on television; a practice that was banned in the 1970's for cigarettes.<sup>11</sup>

Companies selling e-cigarettes have promoted their product as a way to quit smoking. However, according to the Center for Disease Control and the U.S. Department of Health and Human Services there is not enough evidence at this time to prove that health claim.<sup>12</sup>

## Resources

- Food and Drug Administration - [www.fda.gov](http://www.fda.gov)
- Centers for Disease Control and Prevention - [www.cdc.gov](http://www.cdc.gov)
- National Youth Tobacco Survey - [http://www.cdc.gov/tobacco/data\\_statistics/surveys/nyts/](http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/)
- National Institute of Drug Abuse (NIDA) - <http://www.drugabuse.gov/>
- Monitoring the Future - <http://www.monitoringthefuture.org/>
- Substance Abuse and Mental Health Services Administration (SAMHSA) - [www.samhsa.gov](http://www.samhsa.gov)
- Community Anti-Drug Coalitions of America (CADCA) - [www.cadca.org](http://www.cadca.org)
- American Cancer Institute - [www.cancer.net](http://www.cancer.net)

## References

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8. Arrazola, Rene A., et al. "Tobacco Use Among Middle and High School Students – United States, 2011-2014." *MMWR* 64.14 (2015) 381-85. Web 14 Aug. 2015
9. Grana, Rachel, Benowitz, Neal, and Glantz, Stanton A. *Background Paper on E-cigarettes (Electronic Nicotine Delivery Systems)* Center for Tobacco Control Research and Education University of California, San Francisco, WHO Collaborating Center on Tobacco Control, December 2013. Web 14 Aug. 2015
10. National Institute on Drug Abuse. *DrugFacts: Electronic Cigarettes (e-Cigarettes)*. DrugAbuse.gov, September 2014. Web. 14 Aug. 2015.
11. Grana, Rachel, Benowitz, Neal, and Glantz, Stanton A. *Background Paper on E-cigarettes (Electronic Nicotine Delivery Systems)* Center for Tobacco Control Research and Education University of California, San Francisco, WHO Collaborating Center on Tobacco Control, December 2013. Web 14 Aug. 2015
12. Centers for Disease Control and Prevention. *E-cigarette use more than doubles among U.S. middle and high school students from 2011-2012*. 5 Sept. 2013 Web 14 Aug. 2015

## Where Prevention Strategies Can Make a Difference

The following are examples of how prevention specialists can use information about e-cigarettes in three evidence-based prevention strategies.

### School Policy

The Smoke Free Illinois Act bans tobacco use on school property by any school personnel, student, or guest when the property is being used for any school purpose. Successful school policies addressing substance use, including e-cigarette use, are comprehensive and encompassing. Below are suggestions for adapting a comprehensive school policy to include e-cigarettes:

- Clearly defines populations to which the policy applies (students, staff, visitors)
  - Assess the school readiness to incorporate e-cigarettes into their policy.
  - Identify Key Stakeholders to assist in policy adoption.
- Clearly defines where the policy applies (school building, ground, vehicles on grounds, school-sponsored off-campus events such as athletic events and field trips)
- Clearly defines what substances are prohibited and what constitutes “use” and/or possession”
  - Include e-cigarettes/e-liquid as a device and/or substance that is prohibited.
- Communication of the policy to all affected populations (e.g. students, staff, visitors, parents) on a regular basis – at minimum annually
  - Encourage schools to post the policy on their website and within parent newsletters.
  - Schools can post letters to parents/public on their website highlighting the inclusion of e-cigarettes to their policy.
- Schedule for periodic review of the policy (at least every two years)
  - Review current policy to see if it addresses e-cigarettes.
- When implementing intervention as a consequence of policy violation, ensure the following:
  - Substance abuse assessment is completed by someone with training to implement an assessment
  - Confidentiality is ensured for those who are assessed and participate in substance abuse interventions
  - One to one counseling is provided rather than group counseling if education rather than treatment is the intervention goal
- Incorporates provisions for prevention, intervention, treatment and relapse prevention
  - School policies can incorporate proven methods of nicotine cessation to assist students who have violated the policy.
  - Educate on health facts by sharing this fact sheet with school personnel and stakeholders.
  - Encourage school personnel to administer the Illinois Youth Survey in order to collect current data on tobacco/e-cigarette use.



### Youth Prevention Education

Youth Prevention Education programs develop decision making skills, focus on stress management, and guide students to build upon their own resistance skills. Internal pressure such as anxiety and stress, and external pressures like peer attitudes and advertising influence usage.

The 2014 Monitoring the Future survey revealed on a national level, 8th and 10th graders use e-cigarettes more than two times the rate of regular cigarettes. The survey also showed fewer students saw a “great risk” in using e-cigarettes compared to smoking one or more packs of regular cigarettes a day. As a Youth Prevention

Education facilitator you need to be prepared to discuss the risks and dangers of using e-cigarettes. Being prepared means staying up to date on the latest drug trends including e-cigarettes; most Youth Prevention Education curriculum was written prior to the emergence of e-cigarettes.

Key messages to relate about e-cigarettes when teaching Youth Prevention Education:

- E-cigarette liquid usually contains nicotine, a very addictive substance
- Teens who use e-cigarettes are more likely to use traditional tobacco products
- E-liquid can contain more than just flavoring and nicotine – harmful metals and formaldehyde have been present when tested
- E-cigarettes are not the most effective method to quit smoking. Proven methods to quit smoking include calling 1-800-Quit-Now for counseling as well as utilizing nicotine patches, inhalers, or gum

### **Parent and Family Education**

The primary objective of parent/family education programs includes reducing risk for early substance use initiation. Considering that youth are reporting e-cigarettes as their first experience with a nicotine-based product it is important to enhance parents' awareness of e-cigarettes. Parents and caregivers can reinforce that nicotine in any form is harmful.

Key messages to relate about e-cigarettes when working with parents:

- E-cigarettes can resemble cigarettes, pipes and even common items such as USB flash drives and pens. Examples can be seen at <http://circ.ahajournals.org/content/129/19/1972.figures-only>
- Illicit drugs such as marijuana can be “vaped” in e-cigarettes
- Share with parents that it's important to set rules and vocalize the consequences of use
- Encourage parents to talk to their children about not using tobacco/nicotine in any form

### **Resources for parents include:**

- KidsHealth.org: <http://kidshealth.org/parent/positive/talk/e-cigarettes.html>
- Partnership for Drug Free Kids: <http://www.drugfree.org/the-parent-toolkit/>
- National Institute on Drug Abuse: <http://www.drugabuse.gov/parents-educators>

### **Helpful Tools and Resources**

- Campaign for Tobacco Free Kids [www.tobaccofreekids.org](http://www.tobaccofreekids.org)
- Community Anti-Drug Coalitions of America (CADCA) [www.cadca.org](http://www.cadca.org)
- 2014 National Youth Tobacco Survey – FDA Center for Tobacco Products Fact Sheet <http://www.fda.gov/TobaccoProducts/PublicHealthEducation/ProtectingKidsfromTobacco/ucm405173.htm>
- The Foundation for a Smoke-Free America [www.tobaccofree.org](http://www.tobaccofree.org)
- National Institute on Drug Abuse, Drug Facts: E-cigarettes <http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes>