

FACTS

E-Cigarettes and Public Health The Next Generation of Cigarettes

OVERVIEW

Since the Office of the Surgeon General released its first report in 1964 on the dangers of tobacco use, the American Heart Association, in partnership with other major public health organizations, has made major strides in tobacco cessation and prevention. Nearly 8 million lives have been saved since the 1960s¹ and youth smoking rates have been cut in half since the early 2000s.² However, smoking still kills more than 480,000 Americans a year² and remains one of the most preventable cause of death and disease in the U.S. Declines in smoking rates have forced tobacco companies to seek new ways to appeal to a new generation of smokers. A new class of products has entered the marketplace, electronic cigarettes (e-cigarettes), also called electronic nicotine delivery systems.

E-CIGARETTES: WHAT ARE THEY?



E-cigarettes are battery-operated devices that deliver nicotine, flavors, and other chemicals to the user in an aerosol.³ Although using an e-cigarette mimics smoking, there is no combustion and the user inhales aerosol, not smoke. Because of this, studies on specific types of e-cigarettes have shown that they produce less air toxins compared with regular cigarettes.^{4,5}

Proponents argue that e-cigarettes have the potential to enhance public health if smokers switch to e-cigarettes because they do not expose the user to the harmful toxins in conventional cigarette smoke.

However, opponents point out that e-cigarettes could fuel and promote nicotine addiction, and their acceptance has the potential of re-normalizing smoking behavior. The use of e-cigarettes could also potentially serve as a gateway to other drugs and harmful substances, especially for youth.

E-cigarettes are often marketed as smoking cessation aids. However, there is currently no conclusive scientific evidence that e-cigarettes promote successful long-term quitting.³ Almost 20% of smokers who try e-cigarettes go on to become regular users.⁶

WHO IS USING?

Survey research has painted a broad picture of the typical e-cigarette user:

- Non-Hispanic whites, current smokers, young adults, and those with a higher education and higher income perceive e-cigarettes as less harmful than combustible tobacco products and are more likely to use them.^{7,8}
- 76% of current adolescent users of e-cigarettes also smoke conventional cigarettes.⁹
- About 3-7% of adults have ever used e-cigarettes at least once.^{10,11}
- E-cigarette use is higher among adolescents who either previously smoked or still smoke conventional cigarettes, as well as among those who intend to quit.¹²

E-CIGARETTES' IMPACT ON YOUTH

The rise of the manufacturing and marketing of e-cigarettes has had a particular influence on U.S. youth:

- Nearly 1.78 million middle and high school students nationwide have tried e-cigarettes.¹³
- The percentage of U.S. middle and high school students who used electronic e-cigarettes more than doubled from 2011 to 2012.¹³
- In 2014, more teens used e-cigarettes than traditional cigarettes or any other tobacco product.¹⁴
- E-cigarette use is associated with increased intentions to smoke cigarettes.¹⁵
- Adolescent e-cigarette users were found to be at intermediate risk status [elevated on risk factors (i.e. peer smoking, smoking expectancies, and emotional dysregulation) and lower on protective factors (i.e. parental support, emotional self-control, and academic competence)]. This raises the possibility that e-cigarettes are attracting medium-risk adolescents, who otherwise would be less susceptible to tobacco product use.¹⁶
- Adolescents see e-cigarettes as accessible and convenient, especially in places where smoking cigarettes is not allowed.¹⁷
- Although e-cigarettes were introduced less than a decade ago, there are currently more than 466 brands³ on the market and sales were projected to be \$1.7 billion in 2013.²
- More than 16 million children live in states where they can buy e-cigarettes legally.¹⁸
- Of all students who had never smoked a cigarette, 90% reported some level of exposure to advertising or promotions for cigarettes or other tobacco products.¹⁵

FACT SHEET: E-Cigarettes and Public Health

- E-cigarettes are being marketed to children and adolescents via celebrities and appealing flavors.¹⁹
- Ads often appear on social media sites and YouTube,²⁰ as well as traditional media sources such as television, radio, and newspapers.

CURRENT STATUS OF RESEARCH

E-cigarettes are mostly unregulated and their health effects are not fully known, especially when associated with long-term use. To date, approximately half of tobacco-related adverse event reports in the U.S. concern electronic cigarettes²¹ There have also been an increasing number of calls to poison control centers due to ingestion of the nicotine refill liquids.²²

THE ASSOCIATION ADVOCATES

- Including e-cigarettes in smoke free laws.
- Including e-cigarettes in laws that prohibit the sale and marketing of tobacco to minors.
- Taxing e-cigarettes at a rate high enough to discourage youth use while retaining or increasing differentials with combustible products by increasing taxes on combustibles.
- Addressing marketing, youth access, labeling, quality control over manufacturing, and standards for contaminants of e-cigarettes through effective regulation by the Food and Drug Administration.
- Educating health care workers so they can adequately counsel their patients regarding comprehensive tobacco cessation strategies.
- Incorporating e-cigarette use into screening questions at clinical visits and worksite/community health screenings.
- Increasing or maintaining surveillance on the prevalence of e-cigarette use in adults, children, and adolescents.
- Further research and surveillance on the short, medium, and long-term physiological effects of e-cigarette nicotine, propylene glycol and glycerol, flavorings and other ingredients.
- Including e-cigarettes in the definition of tobacco products for legislation and regulation.

AREAS FOR FURTHER RESEARCH

More research is needed in the following areas so we can better assess the effects of e-cigarette use.²

- Identify whether e-cigarette use is a gateway to smoking conventional cigarettes.
- Ascertain whether e-cigarettes are consistently used dually with other tobacco products.
- Evaluate the effects of the tobacco industry's marketing strategy of e-cigarettes on public health.
- Identify any acute and chronic adverse health effects of e-cigarettes.
- Assess the health effects of second or third hand exposure to e-cigarette vapor and constituents.
- Evaluate the efficacy of e-cigarettes as a smoking and nicotine cessation modality
- Ascertain the addictive potential of e-cigarettes and their pattern of use and withdrawal symptoms.
- Identify cultural, social and economic factors that promote, sustain or discourage e-cigarette use.

- Identify and monitor e-cigarette manufacturing practices, e-cigarette constituents, their variation between different brands, pharmacokinetics, and modes of delivery.
- Identify how often e-cigarettes are being used for the delivery of other drugs and medications.
- Indicate whether or not youth experimentation with e-cigarettes results in nicotine addiction and the later transition to use of conventional cigarettes.

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