ELECTRONIC NICOTINE DELIVERY SYSTEMS  KEY FACTS

Youth use of ENDS continues to rise rapidly in the U.S.

From 2011 to 2014, past 30-day use of e-cigarettes increased

9x for high school students (1.5% to 13.4%)

and more than 6x for middle school students (0.6% to 3.9%)

Nearly 2.5 million U.S. middle and high school students were past 30-day e-cigarette users in 2014

including about 1 in 7 high school students.¹

In 2013, more than a quarter of a million (263,000) middle and high school students who had never smoked cigarettes had ever used e-cigarettes.²

Most adult ENDS users also smoke conventional cigarettes, which is referred to as "dual use."

In 2012/2013, 1.9% of adults were past 30 day e-cigarette users, including 9.4% of conventional cigarette smokers.³

Among adult past 30 day e-cigarette users, 76.8% were also current cigarette smokers (i.e., "dual users") in 2012/2013.³

Nicotine poses dangers to pregnant women and fetuses, children, and adolescents. Youth use of nicotine in any form, including ENDS, is unsafe.⁴,⁵

- Nicotine is highly addictive.⁴
- Nicotine is toxic to developing fetuses and impairs fetal brain and lung development. ⁴,⁵
- Poisonings have resulted among users and non-users due to ingestion of nicotine liquid, absorption through the skin, and inhalation.⁶ E-cigarette exposure calls to poison centers increased from one per month in September 2010 to 215 per month in February 2014, and over half of those calls were regarding children ages 5 and under.⁶
- Because the adolescent brain is still developing, nicotine use during adolescence can disrupt the formation of brain circuits that control attention, learning, and susceptibility to addiction.⁵
- According to the Surgeon General, the evidence is already sufficient to warn pregnant women, women of reproductive age, and adolescents about the use of nicotine containing products such as smokeless tobacco, dissolvables, and ENDS as alternatives to smoking.⁴

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/tobacco
Any combusted tobacco use at any age is dangerous.

The burden of death and disease from tobacco use in the U.S. is overwhelmingly caused by cigarettes and other combusted tobacco products. There is no safe level of exposure to secondhand tobacco smoke.

In order for adult smokers to benefit from ENDS, they must completely quit combusted tobacco use. Smoking even a few cigarettes per day is dangerous to your health.

Smokers who cut back on cigarettes by using ENDS, but who don't completely quit smoking cigarettes, aren't fully protecting their health:
- Smoking just 1-4 cigarettes a day doubles the risk of dying from heart disease.
- Heavy smokers who reduce their cigarette use by half still have a very high risk for early death.

Benefits of quitting smoking completely:
- Heart disease risk is cut in half 1 year after quitting and continues to drop overtime.
- Even quitting at age 50 cuts your risk in half for early death from a smoking-related disease.

ENDS are not an FDA-approved quit aid.

Currently the evidence is insufficient to conclude that ENDS are effective for smoking cessation.

Seven medicines are approved by the FDA for smoking cessation, and are proven safe as an effective when used as directed.

ENDS aerosol is NOT harmless "water vapor" and is NOT as safe as clean air.

- ENDS generally emit lower levels of dangerous toxins than combusted cigarettes. However, in addition to nicotine, ENDS aerosols can contain heavy metals, ultrafine particulate, and cancer-causing agents like acrolein.
- ENDS aerosols also contain propylene glycol or glycerin and flavorings.
- Some ENDS manufacturers claim that the use of propylene glycol, glycerin, and food flavorings is safe because they meet the FDA definition of "Generally Recognized as Safe" (GRAS). However, GRAS status applies to additives for use in foods, NOT for inhalation. The health effects of inhaling these substances are currently unknown.

www.cdc.gov/tobacco
ENDS are aggressively marketed using similar tactics as those proven to lead to youth cigarette smoking.

Although the advertisement of cigarettes has been banned from television in the United States since 1971, ENDS are now marketed on television and other mainstream media channels.²

Spending on advertising of ENDS tripled each year from 2011 to 2013.¹²,¹³ Sales of ENDS also increased dramatically over a similar period.¹⁴

ENDS marketing has included unproven claims of safety and use for smoking cessation, and statements that they are exempt from clean air policies that restrict smoking.⁴ These messages could:

§ Promote situational substitution of ENDS when smokers cannot smoke cigarettes, rather than complete substitution of ENDS for cigarettes.

§ Undermine clean indoor air standards, smokefree policy enforcement, and tobacco-free social norms.

In a randomized controlled trial, adolescents who viewed e-cigarette TV advertisements reported a significantly greater likelihood of future e-cigarette use compared with the control group. They were also more likely to agree that e-cigarettes can be used in places where smoking is not allowed.¹⁵

Some ENDS companies are using techniques similar to those used by cigarette companies that have been shown in the 2012 Surgeon General's Report to increase use of cigarettes by youth, including: candy-flavored products; youth-resonant themes such as rebellion, glamour, and sex; celebrity endorsements; and sports and music sponsorships.¹³,¹⁶

Visual depictions of ENDS use in advertisements may serve as smoking cues to smokers and former smokers, increasing the urge to smoke and undermining efforts to quit or abstain from smoking.¹⁷

Given the currently available evidence on ENDS, several policy levers are appropriate to protect public health:

- **Prohibitions on marketing or sales** of ENDS that result in youth use of any tobacco product, including ENDS.

  § States laws prohibiting sales of ENDS to minors that feature strong enforcement provisions and allow localities to develop more stringent policies are more likely to help prevent youth access.¹⁸

- **Prohibitions on ENDS use in indoor areas** where conventional smoking is not allowed could:¹⁸

  § Preserve clean indoor air standards and protect bystanders from exposure to secondhand ENDS aerosol.

  § Support tobacco-free norms.

- When addressing potential public health harms associated with ENDS, it is important to simultaneously **uphold and accelerate strategies found by the Surgeon General to prevent and reduce combustible tobacco use**, including tobacco **price increases**, comprehensive **smoke-free laws**, high-impact media campaigns, barrier-free cessation treatment and services, and comprehensive **statewide tobacco control programs**.⁴,¹⁸

www.cdc.gov/tobacco


10. FDA 101: Smoking Cessation Products. Available at: http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm#learn


www.cdc.gov/tobacco
The North Carolina Youth Tobacco Survey (NC YTS) is a public school-based survey of students in grades 6 – 12 and has been conducted every two years since 1999. For 2013, a total of 8,019 students (3,927 middle school (MS) students and 4,092 high school (HS) students) responded to the survey. The NC YTS 2013 school response rates were 88.24% and 81.37% for MS and HS, respectively, and student response rates were 85.54% and 83.37% for MS and HS, respectively. The overall response rate was 75.47% for MS and 67.84% for HS. North Carolina enrollment figures (347,036 MS students, and 412,504 HS students) were used to generalize NC YTS findings to all MS and HS students in the state.

1 in every 10 (~29,845) middle school students is a current tobacco user.

3 in every 10 (~122,514) high school students are current tobacco users.

NC Middle & High School Current* smoking prevalence: NC YTS, 1999-2013

*Current use is defined as using on one or more of the past 30 days. **Beginning in 2011, NC YTS began including an item for use of emerging tobacco products. Emerging tobacco products include electronic cigarettes, clove cigars, dissolvable tobacco products, flavored cigarettes, flavored little cigars, hookahs or waterpipes, roll-your-own cigarettes, and snus. Data on emerging tobacco product use prior to 2011 is not available.

State of North Carolina | Pat McCrory, Governor | Department of Health and Human Services | Aldona Z. Wos, M.D., Secretary | Division of Public Health

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Concerning Trends – 2013

Current Emerging Tobacco Users***

- **6.5%**
  - (-22,557) MS students
- **22.4%**
  - (-92,401) HS students

Current Dual Tobacco Product Users*

- **4.4%**
  - (-15,270) MS students
- **19.1%**
  - (-78,788) HS students

***Current emerging tobacco user is someone who self-reported as using emerging tobacco products on one or more of the past 30 days. Emerging tobacco products include electronic cigarettes, clove cigars, dissolvable tobacco products, flavored cigarettes, flavored little cigars, hookahs or waterpipes, roll-your-own cigarettes, and snus.

*Students who currently use two or more of any form of tobacco, including emerging tobacco products are considered to be a dual user.

NC High School Current* Tobacco Users by Gender: NCYTS 2013

Exposure to Secondhand Smoke – 2013

Smoking is Always Allowed in the Home

- **9.3%**
  - (-32,274) MS students
- **13.6%**
  - (-56,101) HS students

Smoking is Always Allowed in Vehicle

- **12.4%**
  - (-43,032) MS students
- **18.4%**
  - (-75,901) HS students

Think Smoke from Others is Harmful to Them

- **93.1%**
  - (-323,091) MS students
- **89.6%**
  - (-369,604) HS students

NC Middle & High School Students Exposed to Secondhand Smoke* by Venue and Smoking Status: NCYTS 2013

Cessation Behavior among Current* Smokers – 2013

Want to Stop Smoking

- **35.7%**
  - (-3,097) MS students
- **39.1%**
  - (-21,774) HS students

Attempted to Quit Smoking in Past 12 Months

- **66.5%**
  - (-5,769) MS students
- **59.8%**
  - (-33,301) HS students

*Exposure to secondhand smoke is defined as exposure on one or more of past 7 days

*Current use is defined as using on one or more of the past 30 days.

For more information, please contact the North Carolina Tobacco Prevention and Control Branch at (919) 707-5400.
Electronic Nicotine Delivery Systems: Key Facts
CDC Office on Smoking and Health

July 2015

This document outlines key facts related to electronic nicotine delivery systems (ENDS), including e-cigarettes.

- **Youth use of ENDS continues to rise rapidly in the U.S.**
  - From 2011 to 2014, past 30-day use of e-cigarettes increased nine-fold for high school students (1.5% to 13.4%) and more than six-fold for middle school students (0.6% to 3.9%).
  - Nearly 2.5 million U.S. middle and high school students were past 30-day e-cigarette users in 2014, including about 1 in 7 high school students.
  - In 2013, more than a quarter of a million (263,000) middle and high school students who had never smoked cigarettes had ever used e-cigarettes.

- **Most adult ENDS users also smoke conventional cigarettes, which is referred to as “dual use.”**
  - In 2012/2013, 1.9% of adults were past 30 day e-cigarette users, including 9.4% of conventional cigarette smokers. Among adult past 30 day e-cigarette users, 76.8% were also current cigarette smokers (i.e., “dual users”) in 2012/2013.

- **Nicotine poses dangers to pregnant women and fetuses, children, and adolescents. Youth use of nicotine in any form, including ENDS, is unsafe.**
  - Nicotine is highly addictive.
  - Nicotine is toxic to developing fetuses and impairs fetal brain and lung development.
  - Because the adolescent brain is still developing, nicotine use during adolescence can disrupt the formation of brain circuits that control attention, learning, and susceptibility to addiction.
  - Poisonings have resulted among users and non-users due to ingestion of nicotine liquid, absorption through the skin, and inhalation. E-cigarette exposure calls to poison centers increased from one per month in September 2010 to 215 per month in February 2014, and over half of those calls were regarding children ages 5 and under.
  - According to the Surgeon General, the evidence is already sufficient to warn pregnant women, women of reproductive age, and adolescents about the use of nicotine-containing products such as smokeless tobacco, dissolvables, and ENDS as alternatives to smoking.
• Any combusted tobacco use at any age is dangerous.
  
  o The burden of death and disease from tobacco use in the U.S. is overwhelmingly caused by cigarettes and other combusted tobacco products.\(^4\)
  o There is no safe level of exposure to secondhand tobacco smoke.\(^7\)

• In order for adult smokers to benefit from ENDS, they must completely quit combusted tobacco use. Smoking even a few cigarettes per day is dangerous to your health.
  
  o Smokers who cut back on cigarettes by using ENDS, but who don’t completely quit smoking cigarettes, aren’t fully protecting their health:
    ▪ Smoking just 1-4 cigarettes a day doubles the risk of dying from heart disease.\(^8\)
    ▪ Heavy smokers who reduce their cigarette use by half still have a very high risk for early death.\(^9\)
  o Benefits of quitting smoking completely:
    ▪ Heart disease risk is cut in half 1 year after quitting and continues to drop over time.\(^4\)
    ▪ Even quitting at age 50 cuts your risk in half for early death from a smoking-related disease.\(^4\)

• ENDS are not an FDA-approved quit aid.
  
  o The evidence is currently insufficient to conclude that ENDS are effective for smoking cessation.
  o Seven medicines are approved by the FDA for smoking cessation, and are proven safe and effective when used as directed.\(^10\)

• ENDS aerosol is NOT harmless “water vapor” and is NOT as safe as clean air.\(^18\)
  
  o ENDS generally emit lower levels of dangerous toxins than combusted cigarettes. However, in addition to nicotine, ENDS aerosols can contain heavy metals, ultrafine particulate, and cancer-causing agents like acrolein.\(^11\)
  o ENDS aerosols also contain propylene glycol or glycerin and flavorings. Some ENDS manufacturers claim that the use of propylene glycol, glycerin, and food flavorings is safe because they meet the FDA definition of “Generally Recognized as Safe” (GRAS). However, GRAS status applies to additives for use in foods, NOT for inhalation. The health effects of inhaling these substances are currently unknown.

• ENDS are aggressively marketed using similar tactics as those proven to lead to youth cigarette smoking.
  
  o Although the advertisement of cigarettes has been banned from television in the United States since 1971, ENDS are now marketed on television and other mainstream media channels.
○ Spending on advertising of ENDS tripled each year from 2011 to 2013.\textsuperscript{12,13} Sales of ENDS also increased dramatically over a similar period.\textsuperscript{14}

○ ENDS marketing has included unproven claims of safety and use for smoking cessation, and statements that they are exempt from clean air policies that restrict smoking.\textsuperscript{4} These messages could:
  □ Promote situational substitution of ENDS when smokers cannot smoke cigarettes, rather than complete substitution of ENDS for cigarettes.
  □ Undermine clean indoor air standards, smokefree policy enforcement, and tobacco-free social norms.

○ In a randomized controlled trial, adolescents who viewed e-cigarette TV advertisements reported a significantly greater likelihood of future e-cigarette use compared with the control group. They were also more likely to agree that e-cigarettes can be used in places where smoking is not allowed.\textsuperscript{15}

○ Some ENDS companies are using techniques similar to those used by cigarette companies that have been shown in the 2012 Surgeon General’s Report to increase use of cigarettes by youth, including: candy-flavored products; youth-resonant themes such as rebellion, glamour, and sex; celebrity endorsements; and sports and music sponsorships.\textsuperscript{13,16}

○ Visual depictions of ENDS use in advertisements may serve as smoking cues to smokers and former smokers, increasing the urge to smoke and undermining efforts to quit or abstain from smoking.\textsuperscript{17}

- **Given the currently available evidence on ENDS, several policy levers are appropriate to protect public health:**

  ○ Prohibitions on marketing or sales of ENDS that result in youth use of any tobacco product, including ENDS.
    □ States laws prohibiting sales of ENDS to minors that feature strong enforcement provisions and allow localities to develop more stringent policies are more likely to help prevent youth access.\textsuperscript{18}

  ○ Prohibitions on ENDS use in indoor areas where conventional smoking is not allowed could:\textsuperscript{18}
    □ Preserve clean indoor air standards and protect bystanders from exposure to secondhand ENDS aerosol.
    □ Support tobacco-free norms.
    □ Support enforcement of smoke-free laws.

  ○ When addressing potential public health harms associated with ENDS, it is important to simultaneously uphold and accelerate strategies found by the Surgeon General to prevent and reduce combustible tobacco use, including tobacco price increases, comprehensive smoke-free laws, high-impact media campaigns, barrier-free cessation treatment and services, and comprehensive statewide tobacco control programs.\textsuperscript{4,18}
10 FDA 101: Smoking Cessation Products. Available at: http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm#learn
E-cigarettes have the potential for harm and benefit to the public’s health. It is important to consider their effects on specific populations, including youth, pregnant women, and adult smokers.

**Table: Examples of how e-cigarettes could benefit or harm the public’s health**

<table>
<thead>
<tr>
<th>E-cigarettes could cause public health HARM if they:</th>
<th>E-cigarettes could lead to public health BENEFIT if:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lead to use of nicotine and/or other tobacco products by youth and nontobacco users.</td>
<td>• Individual adult smokers switch completely from combustible tobacco products to e-cigarettes.</td>
</tr>
<tr>
<td>• Are used by pregnant women.</td>
<td>• They assist in rapid transition to a society with little or no combustible tobacco use.</td>
</tr>
<tr>
<td>• Lead former smokers to relapse to nicotine use or use of other tobacco products.</td>
<td></td>
</tr>
<tr>
<td>• Delay complete smoking cessation among current smokers.</td>
<td></td>
</tr>
<tr>
<td>• Result in nicotine poisonings (e.g., through ingestion of e-cigarette liquid, absorption of e-cigarette liquid through the skin, or inhalation of e-cigarette aerosol).</td>
<td></td>
</tr>
<tr>
<td>• Expose nonusers to secondhand aerosol.</td>
<td></td>
</tr>
</tbody>
</table>

**For YOUTH:**

- Use of tobacco and nicotine pose known harms for youth. Therefore, youth should not use any tobacco product, regardless of whether it’s combustible, noncombustible, or electronic.
  - Nicotine is highly addictive.
  - Nicotine exposure may harm the developing adolescent brain.
  - E-cigarette use by youth could also cause harm if it leads to use of other tobacco products.

**For NON-PREGNANT ADULT SMOKERS:**

- Any combusted tobacco use at any age is dangerous. According to the US Surgeon General, the burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products.
- For adult smokers to benefit from e-cigarettes, they must completely quit combusted tobacco use. Smoking even a few cigarettes per day is dangerous to health.
- E-cigarettes are not an FDA-approved smoking cessation aid.
  - The US Preventive Services Task Force, a group of health experts that makes recommendations about preventive health care, has concluded that evidence is insufficient to recommend e-cigarettes for smoking cessation in adults, including pregnant women.

**For PREGNANT WOMEN:**

- Nicotine is a health danger for pregnant women and their developing fetuses.
- Pregnant women should not use any tobacco product, including e-cigarettes, because nicotine is toxic to developing fetuses and impairs fetal brain and lung development.
• Pregnant women who haven’t been able to quit smoking on their own or with counseling can discuss the risks and benefits of using cessation products, such as nicotine replacement therapy, with their health care provider.

For ADULT NONTOBACCO USERS:
• E-cigarette aerosol is not harmless water vapor. In addition to nicotine, e-cigarette aerosol can contain heavy metals, ultrafine particulates that can be inhaled deep into the lungs, and cancer-causing agents like acrolein.
• E-cigarette aerosols also contain propylene glycol or glycerin and flavorings. Some e-cigarette manufacturers claim that the use of these ingredients is safe because they meet the FDA definition of “generally recognized as safe” (GRAS). However, GRAS status applies to ingestion of these ingredients (i.e., in food), not inhalation. The health effects of inhaling these substances, including from an e-cigarette, are unknown.
• Inhaling e-cigarette aerosol directly from the device or from secondhand aerosol that is exhaled by users is potentially harmful to health. Therefore, adult nontobacco users should not use e-cigarettes or be exposed to secondhand aerosol from these products.
FACT SHEET

ELECTRONIC CIGARETTES (E-CIGARETTES)

Descriptions

- Electronic cigarettes, or e-cigarettes, are battery-powered devices that heat cartridges containing flavored, liquid nicotine and other additives that deliver nicotine to the user in the form of an aerosol or "vapor."
- Electronic cigarettes are not lit, although many light up when they are drawn on. These devices are usually made to look like tobacco products, such as cigarettes and cigars.
- Nicotine cartridges come in many flavors, including both tobacco flavors, and fruit or candy flavors, such as strawberry, banana and chocolate.
- The ingredients in e-cigarettes and vapor are currently being studied for their effects on individual health.
- Trends of e-cigarette use are being studied for their effects on population health, particularly the impact on young people and tobacco users who want to quit.
- E-cigarettes have not been tested in U.S. clinical trials as a smoking cessation device.

Youth

- The N.C. General Assembly (2013) showed their concern over e-cigarettes' attractiveness to youth by adding them to the law which bans the sale or distribution of tobacco products to minors (McKenzie, 2013).
- Flavored e-cigarette products may be particularly attractive to young people (CDC, 2013).
- In October, 2013 NBC New York reported the increasing use of e-cigarettes to ingest marijuana, noting that, because of the lack of smell, this vaporized use of marijuana was almost undetectable by others, including parents (Givens & Chang, 2013, Oct. 11).
- Experimentation and use of these products have risen sharply among young people according to a recently released CDC study: *E-cigarette experimentation and recent use doubled among U.S. middle and high school students during 2011–2012, resulting in an estimated 1.78 million students having ever used e-cigarettes as of 2012. Moreover, in 2012, an estimated 160,000 students who reported ever using e-cigarettes had never used conventional cigarettes* (CDC, 2013).
- Nicotine, which is in most e-cigarettes, is addicting, and has been shown to affect brain development of adolescents (Counotte, et al., 2011).
Pregnant Women, Infants and Children, and Parents/Caretakers

- Epidemiologic evidence strongly supports links between conditions encountered during embryonic and fetal development, including smoking, with low birth weight and adult onset diseases, including atherosclerosis, coronary heart disease, type 2 diabetes, obesity, and cancer. New evidence is prompting studies to document the impact of nicotine in e-cigarettes on the fetus, including the impact on the genes and brain development that may increase the risk of behavioral problems and adult onset diseases. (Murphy, 2012)
- Nicotine is addictive. Nicotine crosses the placenta and can have negative effects (damage lungs, heart, and central nervous system) on the developing fetus. (Maritz, 2009).
- Nicotine is a known poison. Bottles of e-juice, used in e-cigarettes, are a poison risk for small children and pets (Yamin, Bitton, & Bates, 2010).
- Some e-cigarette vapors and refill fluids, known as e-juice, have tested to be toxic to fetal and embryonic mouse cells, which means expectant mothers’ use of e-cigarettes may prove hazardous for the unborn (Talbot, 2013).
- Exhaled vapor from some e-cigarettes contains hazardous chemicals and particles that collect on surfaces, possibly posing risks to children and pets (Williams, 2013).

Smokers Who Want to Quit

- It’s illegal for e-cigarettes to be marketed as a smoking cessation aid. A U.S. District Court of Appeals judge said if they make medical claims, like the product helps people quit smoking, they’d need to go through a formal FDA process. (CDC 2013). A number of electronic cigarette companies have received warning letters from the FDA for making such claims (FDA, 2010).
- The ads for electronic cigarettes often tell smokers they can use e-cigarettes anywhere they are not allowed to smoke. This is not the case, as all U.S. airlines and other places have banned the use of electronic cigarettes (Davies, 2013).
- Studies testing electronic cigarettes as a tobacco cessation aid have had mixed results, at best. They may help some quit, or they may impede quitting, or even increase addiction to nicotine in others (Glantz, 2013).
- While scientists agree that e-cigarettes expose their users to far lower levels of the toxic chemicals -- such as poisons, carcinogens and metals -- found in cigarette smoke, many of the chemicals are still present, just in much lower levels (Williams, 2013).
- E-cigarette vapor is created with either propylene glycol, which is a known irritant and asthma trigger, or vegetable glycerin. While these products are generally considered safe for humans, they have not been studied for use while heated or over a long period of frequent exposure (Williams, 2013).
Regulation

- As of December, 2013 electronic cigarettes and their advertising and promotion are not regulated. The U.S. Food and Drug Administration (FDA) has announced its intention to regulate electronic cigarettes as tobacco products, but no regulations have yet been issued (FDA, 2011, April).
- As of December, 2013 E-cigarettes manufacturers have not applied to FDA to have them approved as a smoking cessation aid.
- In September, 2013, top law enforcement officials from 41 states, including NC, urged the FDA to promptly issue rules governing the sale of e-cigarettes (Fisher, 2013).
- Electronic cigarette manufacturers do not always accurately label the amount of nicotine in their products. (Cheah et al., 2012 and Trtcchounian & Talbot, 2011). Of 65 compounds found in e-cigarette aerosol, 26 are listed on the FDA established list of harmful and potentially harmful substances (Williams, 2013).

Cited References


U.S. Food and Drug Administration (2010). FDA acts against 5 electronic cigarette distributors


Additional References

American Academy of Pediatrics Handout on E-Cigarettes -
http://www2.aap.org/richmondcenter/pdfs/ECigarette_handout.pdf

American Legacy Foundation: Tobacco Fact Sheet –
http://www.legacyforhealth.org/content/download/582/6926/file/LEG-FactSheet-eCigarettes-JUNE2013.pdf

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