Electronic Nicotine Delivery System (ENDS) Surveillance in the United States

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Timeline of CDC ENDS Surveillance Activities

HealthStyles

NYTS

NATS

YRBS

GATS

GYTS

NHIS

NHANES

Awareness of electronic cigarettes among U.S. adults – Styles, 2010-2013

Ever use of electronic cigarettes among U.S. adults – Styles, 2010-2013

Ever Use of E-cigarettes among U.S. Adults, by Cigarette Smoking Status, Styles, 2010-2013

- **Current Smoker**
  - 2010: 9.8%
  - 2011: 2.5%
  - 2012: 2.5%
  - 2013: 36.5%

- **Former Smoker**
  - 2010: 1.3%
  - 2011: 9.6%
  - 2012: 9.6%
  - 2013: 9.6%

- **Never Smoker**
  - 2010: 1.2%
  - 2011: 1.2%
  - 2012: 1.2%
  - 2013: 1.2%


76.8% of current e-cigarette users were also current cigarette smokers in 2012/2013

“Cutting Back” is Not Enough
Even a Few Cigarettes Per Day is Dangerous

Risks for dual users of cigarettes and e-cigarettes:

- Smoking just five 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 over time.
- Even quitting at age 50 cuts your risk in half for early death from a smoking-related disease.

Current (Past 30 Day) Use of E-cigarettes among U.S. Middle and High School Students, 2011-2014

E-cigarettes and Nonsmoking Youth

- From 2011-2013, the number of never smoking youth who used an e-cigarette increased three-fold.

- In 2013, over ¼ of a million never smoking youth used e-cigarettes.

- Intention to smoke cigarettes was higher among e-cigarette users.

ENDS Surveillance Gaps

- Frequency of Use
- Type of Product Use
- Reasons for Use
- Temporality of Use
- Purchase Location
- Advertising Exposure
- Brand
- Attitudes/Knowledge/Beliefs
What We Know: 2014 Surgeon General’s Report

- Toxicity and Health Effects

“The evidence is already sufficient to provide appropriately cautious messages to pregnant women and women of reproductive age as well as adolescents about the use of nicotine-containing products such as smokeless tobacco and electronic cigarettes, and newer forms of nicotine-containing tobacco products, as alternatives to smoking”

Chapter 5, page 126

Nicotine Poses Unique Dangers to the Developing Human

- Nicotine is highly addictive
- Nicotine is toxic to developing fetuses and impairs fetal brain and lung development
- Nicotine exposure during adolescence may produce lasting adverse consequences for brain development
- Poisonings have resulted among users and non-users due to ingestion of nicotine liquid, absorption through the skin, and inhalation

Number of calls to poison centers for cigarette or e-cigarette exposures, by month – U.S., September 2010–February 2014

Key Takeaways

- ENDS are not yet regulated as tobacco products* and are not an FDA-approved quit aid.

- Youth and adult e-cigarette use are rising rapidly.

- Most adult e-cigarette users smoke cigarettes.
  - Even light cigarette smoking is dangerous

- Youth use of tobacco in any form is unsafe.
  - Nicotine adversely affects the developing fetus and adolescent brain development

- CDC is advancing:
  - Surveillance -- future surveys will address frequency of use, reasons for use, and other gaps
  - Evidence-based tobacco control measures to address the diversity of tobacco products

* FDA issued a proposed rule in 2014 to regulate e-cigarettes as tobacco products