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Overview

1

What are Electronic Nicotine Delivery Systems (ENDS)?

2

Who is Using ENDS?

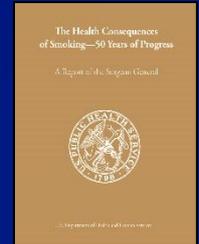
3

What are the Health Effects of ENDS?

4

What are some ENDS Policy Options?

50 Years of Death



MAJOR CONCLUSION #1

“The century-long epidemic of cigarette smoking has caused an enormous avoidable public health tragedy. Since the first Surgeon General’s report in 1964 more than 20 million premature deaths can be attributed to cigarette smoking.”

- **Since 1964, over 20 million Americans died because of smoking, including:**

2.5 million nonsmokers

108,000 babies

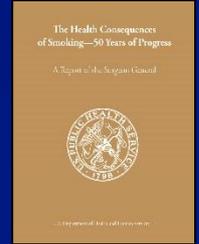
86,000 residential fires

6.58 million from cancers

7.8 million from CVD & metabolic diseases

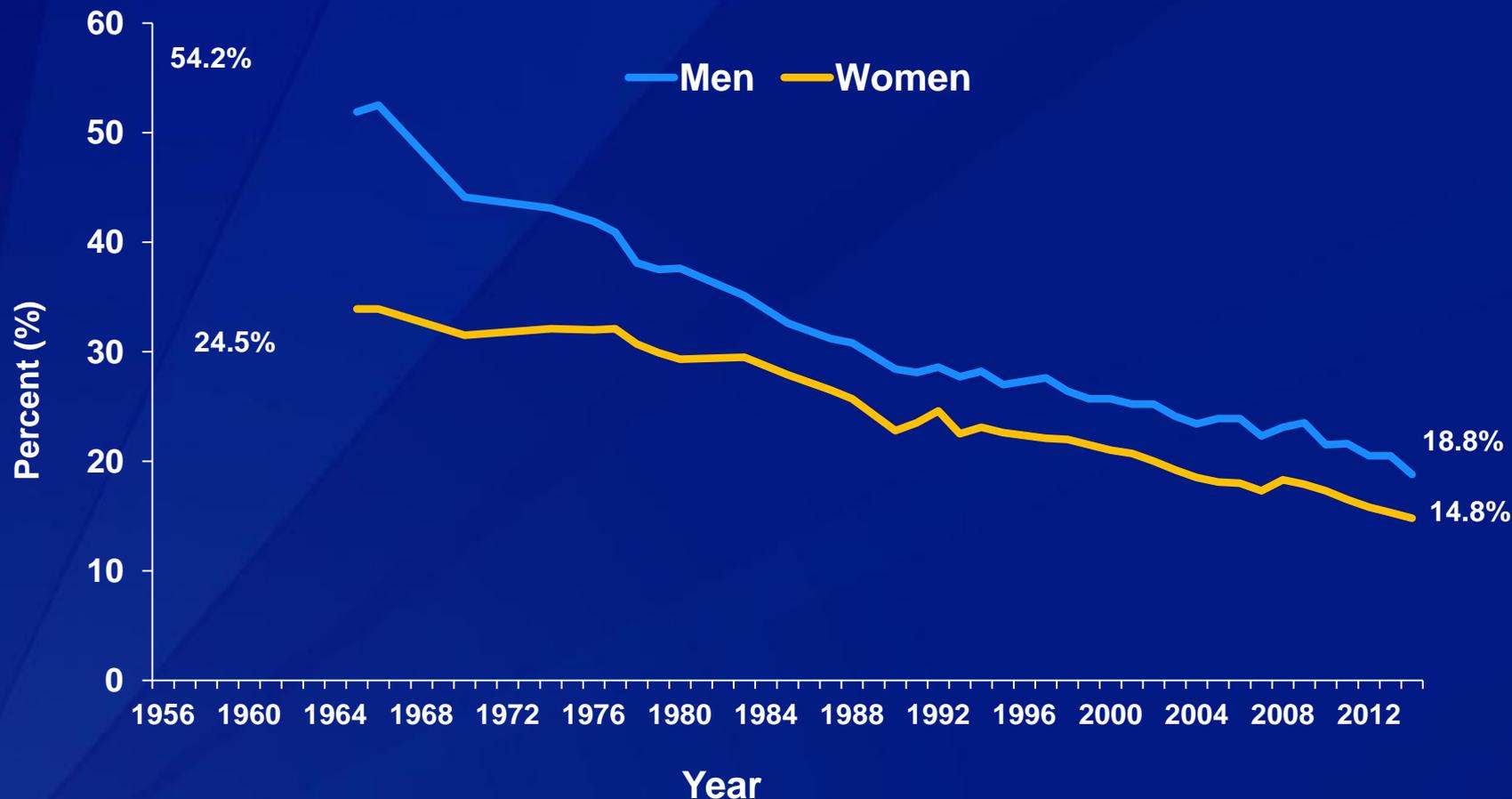
3.8 million from pulmonary diseases

Smoking Costs Us More



- ❑ Annual deaths attributable to smoking, adults 35+: **>480,000**
- ❑ Annual costs attributable to smoking: **Now >\$289 billion**
 - **>\$130 billion** for direct medical care of adults
 - **>\$150 billion** for lost productivity due to premature death
- ❑ More than **16 million** people have ≥ 1 smoking-related disease

Current cigarette smoking among adults aged ≥ 18 years, by sex — U.S., 1955-2014



Note: Estimates since 1992 include some-day smoking.

Sources: 1955 data from Current Population Survey (CPS); 1965-2011 data from National Health Interview Survey (NHIS)

Lung Cancer Risks Increasing

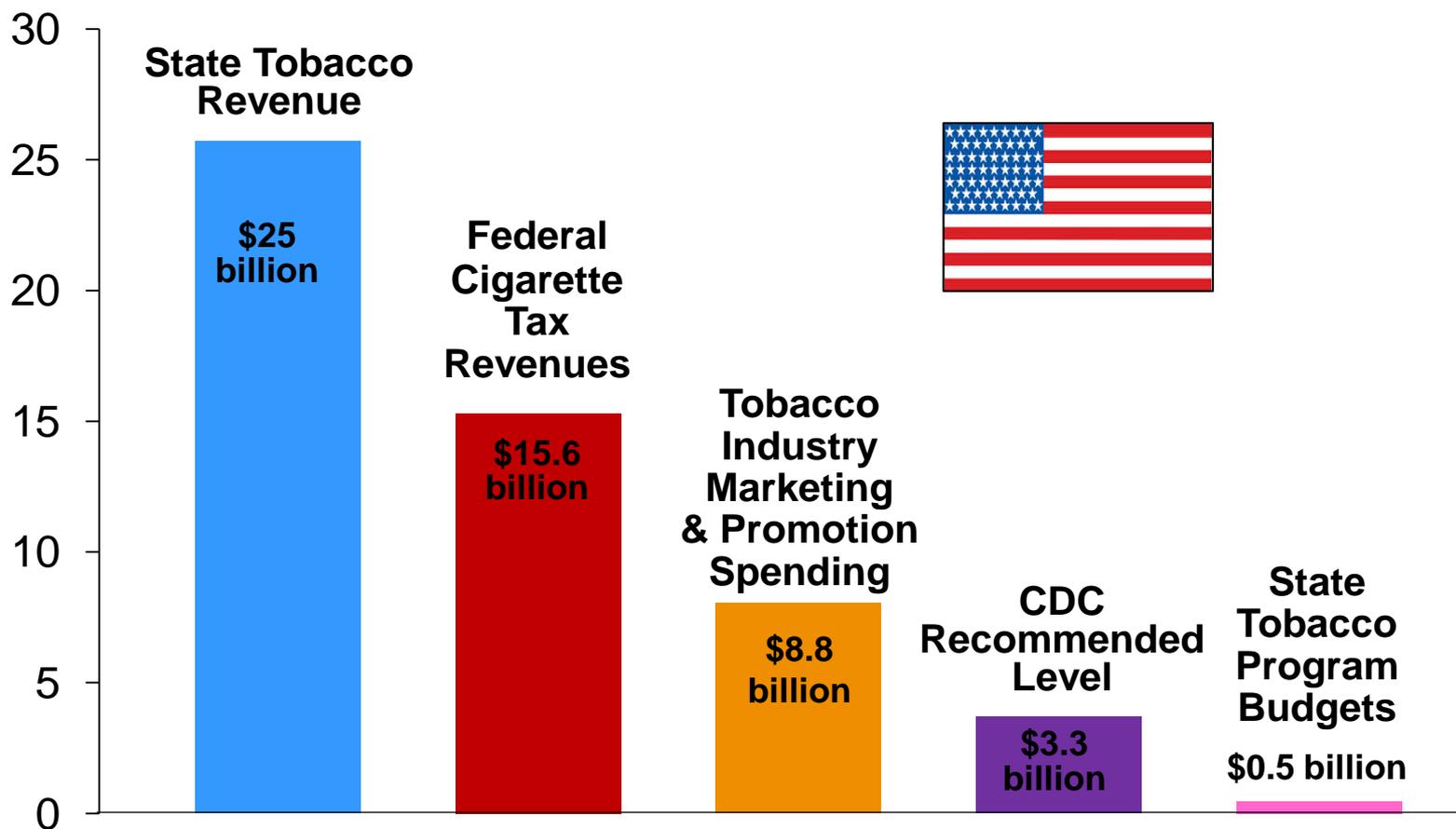
- Between 1959-2010 cigarette consumption declined, but lung cancer risks:
 - Doubled for male smokers
 - Increased 10x for female smokers
 - Did not change for nonsmokers



Possible contributing factors:

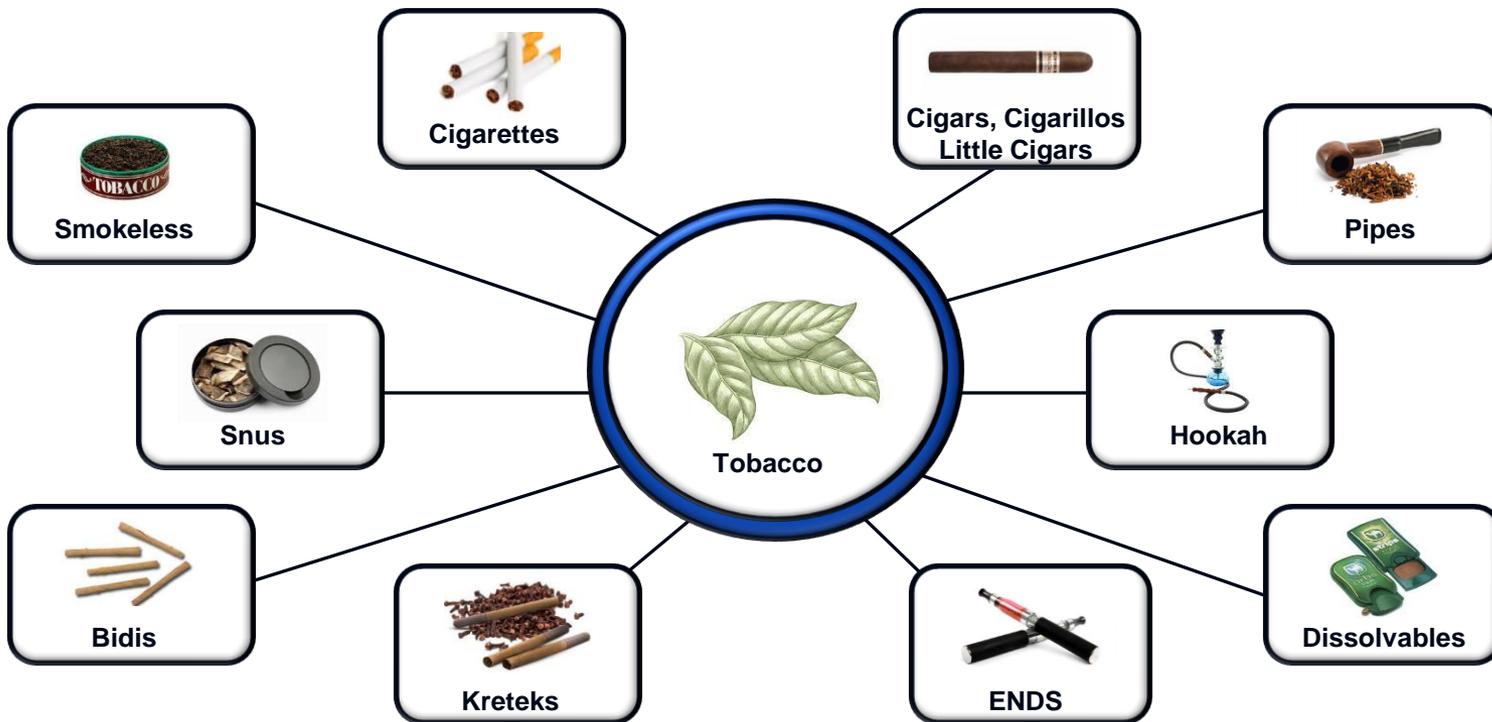
- Ventilated filters
- Increased levels of chemicals

Tobacco Industry is Outspending Prevention Efforts 19:1



Source: Campaign for Tobacco Free Kids, Federal Trade Commission, 2012 Tax Burden on Tobacco Report, CDC's Best Practices for Comprehensive Tobacco Control Programs.

Tobacco Products



- ❑ **Bidis are small, thin, hand-rolled cigarettes imported to the United States, primarily from India and other Southeast Asian countries. They comprise tobacco wrapped in a tendu or temburni leaf and may be secured with a colorful string at one or both ends. Bidis can be flavored (e.g., chocolate, cherry, mango) or unflavored.^{1,2}**
- ❑ **Kreteks—sometimes referred to as clove cigarettes—are imported from Indonesia and typically contain a mixture of tobacco, cloves, and other additives.**
- ❑ **Bidis and kreteks have higher concentrations of nicotine, tar, and carbon monoxide than conventional cigarettes sold in the United States.**

1

What are Electronic
Nicotine Delivery
Systems (ENDS)?

Electronic Nicotine Delivery Systems (ENDS)



E-Cigarettes



Hookah Pens

E-Cigars



Vape Pens



E-Pipes



E-Hookahs

At least 450 Brands

Types of ENDS Products



MINI E-CIG



MID-SIZED



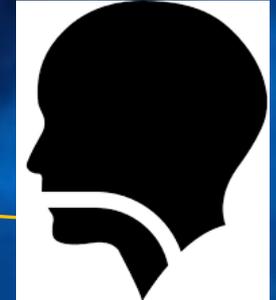
MODIFIED



Smaller/Fixed

Larger/Customizable

Anatomy of an E-Cigarette



User inhales aerosol



Liquid Cartridge
(holds a liquid nicotine, propylene glycol, and/or glycerin solution)

Atomizer
(heats the solution)

Battery
(power source)

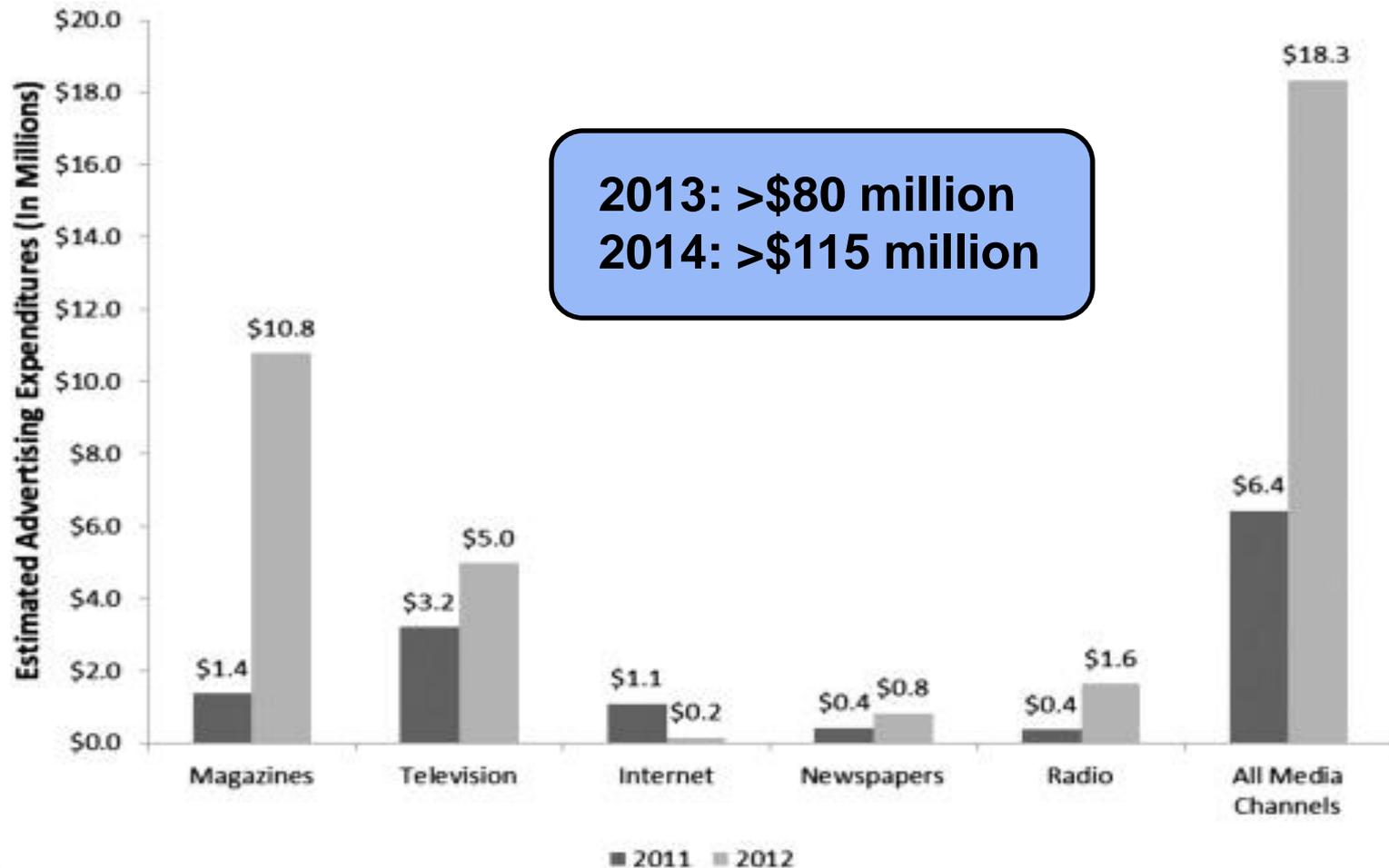


Emissions from ENDS



**Mainstream
(Exhaled) Aerosol**

E-cigarette Advertising Expenditures, by Media Channel, 2011–2012



Marked Increases in the Sale of ENDS (2012-2013)

- **In convenience stores, dollar sales increased:**

- 320.8% for disposable e-cigarettes
- 72.4% for starter kits
- 82% for cartridges



- **In food, drug, and mass merchandisers, dollar sales increased:**

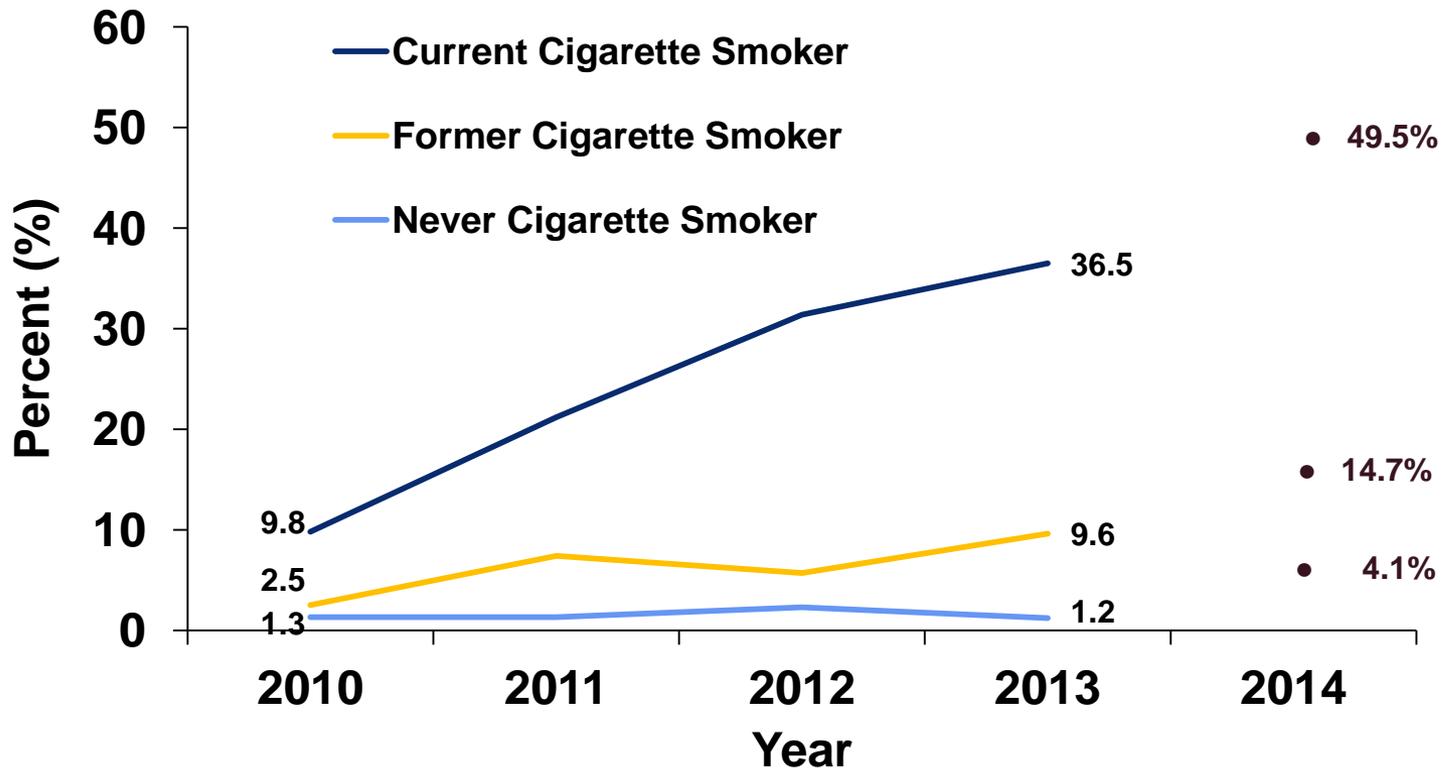
- 49.5% for disposable e-cigarettes
- 89.4% for starter kits
- 126.2% for cartridges



2

**Who is Using
ENDS?**

Ever Use of E-cigarettes among U.S. Adults, by Cigarette Smoking Status, Styles, 2010-2014



“Cutting Back” is Not Enough

Risks for Dual Users of Cigarettes and E-Cigs

- Smoking just 1-4 cigarettes per day doubles risk of dying from heart disease
- Heavy smokers who reduce cigarette use by half still have very high risk for early death

Benefits of Completely Quitting

- Heart disease risk cut in half 1 year after quitting
- This risk continues to drop over time
- Quitting at age 50 cuts your risk in half for early death from a smoking-related disease

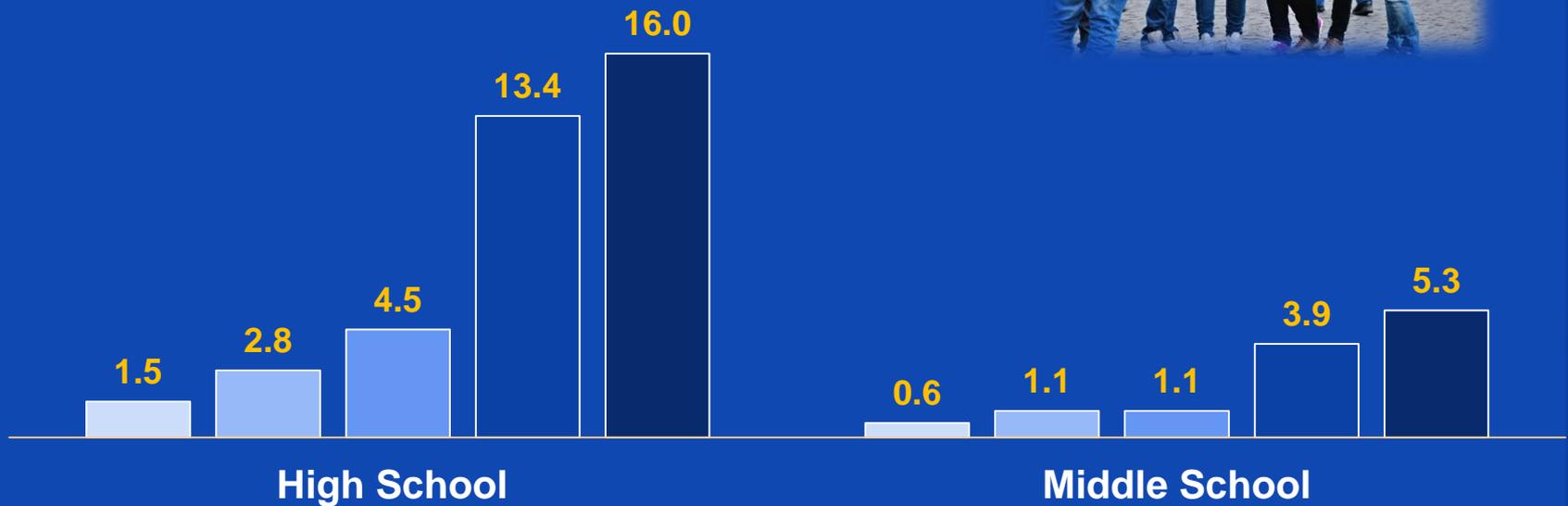
Sources: Bjartveit K, Tverdal A. [Health Consequences of Smoking 1-4 Cigarettes per Day](#). Tobacco Control 2005; 14(5):315-20.

Tverdal A, Bjartveit K. [Health Consequences of Reduced Daily Cigarette Consumption](#). Tobacco Control. 2006; 15(6): 472–80.

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



■ 2011 ■ 2012 ■ 2013 ■ 2014 ■ 2015



Source: Centers for Disease Control and Prevention & U.S. Food and Drug Administration. National Youth Tobacco Survey.

E-cigarettes and Nonsmoking Youth

- From 2011-2013, the number of “never smoking” youth who used an e-cigarette increased three-fold.
- The intention to smoke conventional cigarettes was also higher among e-cigarette users.



In 2013, more than **a quarter million** middle and high school students **never** smoked regular cigarettes but **had** used e-cigarettes...

3 times
as many as 2011!



Among Youth, E-cigarette Use May Lead to Conventional Cigarette Use

- High school students who had never smoked but reported ever using e-cigarettes at baseline were 2.7 times more likely to start using combustible tobacco after 1 year compared with high school students who never used e-cigarettes



- U.S. adolescents and young adults who had never smoked but used e-cigarettes at baseline were 8.3 times more likely to progress to cigarette smoking after 1 year than nonusers of e-cigarettes

What Factors Lead to Youth Smoking?

- Exposure to ads
- Youth-resonating themes
- Low prices/price promotions
- Ease of access
- Youth-appealing flavors
- Health claims
- Ease of product use

Preventing Tobacco Use Among Youth and Young Adults

A Report of the Surgeon General



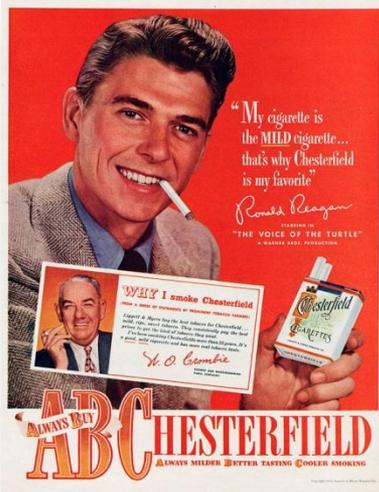
U.S. Department of Health and Human Services

ENDS Marketing Uses Traditional Tactics

1940's / 1950's



2010's



ENDS Marketing Uses Traditional Tactics



SLIM. CHARGED.
READY TO GO.

AVAILABLE
NATIONWIDE!

Visit us at blucigs.com/where-locator

blu ELECTRONIC CIGARETTES

blu

blu



RESOLUTION SOLUTION.

INTRODUCING THE NJOY KING ELECTRONIC CIGARETTE.
IN 2013, SMOKERS FINALLY HAVE A REAL ALTERNATIVE.

It's the first electronic cigarette with the look and feel of the real thing, and authentic flavor developed in the USA by our Master Flavorist. So this New Year, you can get rid of the smoke and keep the flavor. You've got NJOY on your side.

CIGARETTES, YOU'VE
MET YOUR MATCH.

AVAILABLE AT CONVENIENCE STORES NATIONWIDE.

njoy.com



DEAR SMOKING BAN,

blu ELECTRONIC CIGARETTE

Take back your freedom to smoke anywhere with blu electronic cigarettes. blu produces no smoke and no ash, only vapor, making it the smarter alternative to regular cigarettes. It's the most satisfying way to tell the smoking bans to kiss off. Okay, maybe the second-most satisfying way.

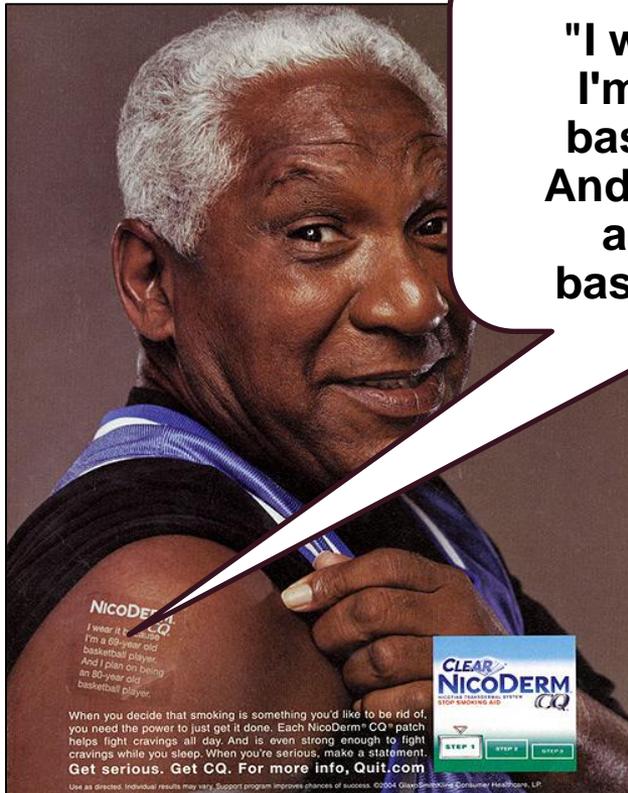
New blu Smart Pack

blucigs.com

18+ only. CALIFORNIA PROPOSITION 65 Warning: This product contains nicotine, a chemical known to the state of California to cause birth defects or other reproductive harm.

Marketing for Nicotine Replacement Therapy

Text on patch:
"I wear it because
I'm a 69-year old
basketball player.
And I plan on being
an 80-year old
basketball player."

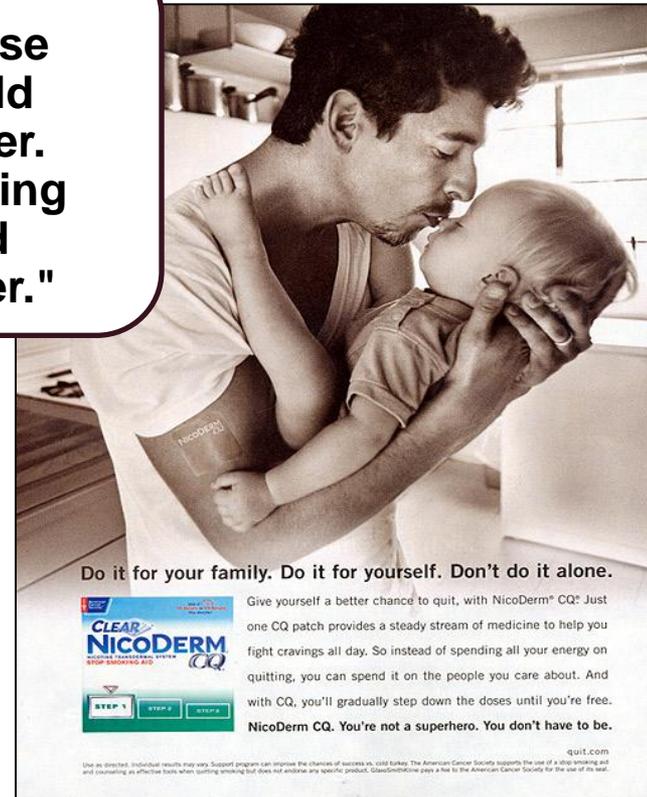


NicoDerm CQ
I wear it because
I'm a 69-year old
basketball player.
And I plan on being
an 80-year old
basketball player.

CLEAR NICODERM CQ
NICOTINE TRANSDERMAL SYSTEM
STOP SMOKING AID

When you decide that smoking is something you'd like to be rid of, you need the power to just get it done. Each NicoDerm® CQ patch helps fight cravings all day. And is even strong enough to fight cravings while you sleep. When you're serious, make a statement. **Get serious. Get CQ. For more info, Quit.com**

Use as directed. Individual results may vary. Support program improves chances of success. ©2004 GlaxoSmithKline Consumer Healthcare, LP



Do it for your family. Do it for yourself. Don't do it alone.

CLEAR NICODERM CQ
NICOTINE TRANSDERMAL SYSTEM
STOP SMOKING AID

Give yourself a better chance to quit, with NicoDerm® CQ. Just one CQ patch provides a steady stream of medicine to help you fight cravings all day. So instead of spending all your energy on quitting, you can spend it on the people you care about. And with CQ, you'll gradually step down the doses until you're free. **NicoDerm CQ. You're not a superhero. You don't have to be.**

quit.com

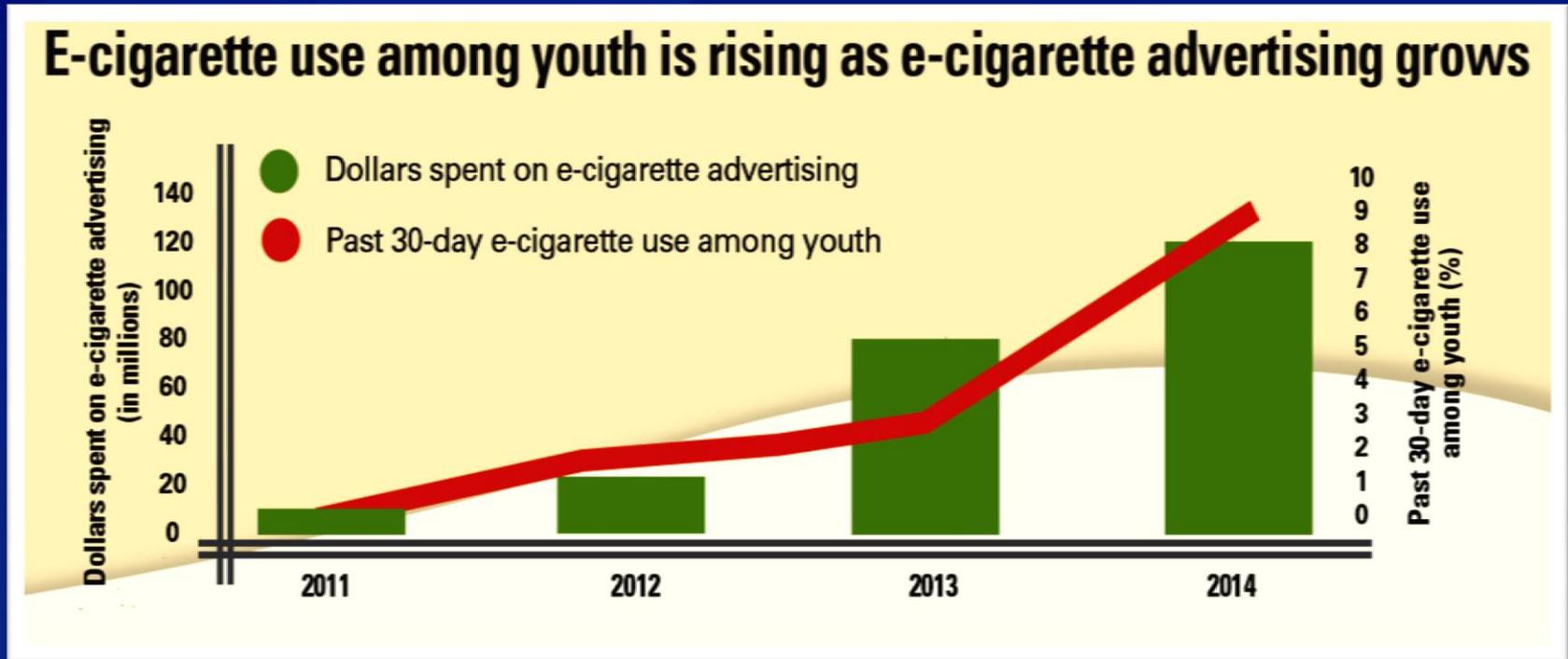
Use as directed. Individual results may vary. Support program can improve the chances of success. ©2004 Glaxo. The American Cancer Society supports the use of a stop-smoking aid and encourages an effective team when quitting smoking, but does not endorse any specific product. GlaxoSmithKline pays a fee to the American Cancer Society for the use of its seal.

Marketing for ENDS

The collage features several marketing elements for Blu eCigs:

- Top Left:** A magazine cover celebrating a 50th anniversary, featuring three women in bikinis.
- Top Middle:** A close-up of a woman's midriff wearing a black bikini bottom with the Blu logo and the text "blu ELECTRONIC CIGARETTES".
- Top Right:** A woman in a green dress looking at a newspaper advertisement. The ad is titled "MISSED CONNECTION" and "READY TO SATISFY" and includes the text: "Hey Smoker - We've crossed paths before, and it's time we meet again. I'm all about satisfying like a cigarette without the baggage. I've changed for the better. FIND ME AT: www.blucigs.com/PLUS".
- Bottom Left:** A photograph of four shirtless men in red shorts holding large packs of Blu eCigs. The background is a red carpet event with logos for SKYY VODKA, XI, NJOY, OUT, SUBARU, IT GETS BETTER PROJECT, Gillette, and Cottonelle.
- Bottom Right:** A screenshot of a social media post from NJOY dated June 25, 2013. The post says: "Identify your night and identify your new self! #NJOYPRIDE #RODEOSHOT Out Magazine - at THE OUTDOORS". It includes engagement metrics like "33 people like this" and "1 share".
- Bottom Far Right:** A product shot of Blu PLUS eCigs packaging with the text "NEW & IMPROVED Get MORE with PLUS+ Bigger Battery, Lasts 2x Longer, Pre-filled blu tanks™, Rapid Battery Charging, Enhanced Flavor and Draw".

E-cigarette Advertising Expenditures and E-cigarette Use Among Middle and High School Students, 2011-2014



3

**What are the
Health Effects of
ENDS?**

ENDS Potential for Harm if:



Leads to initiation of combustible tobacco use among non-smokers, particularly children



Leads to relapse among former smokers



Diminishes the chances that a smoker will quit



Discourages smokers from using proven quit methods



Exposes children, pregnant women, and non-users to secondhand aerosol



Glamorizes or renormalizes tobacco use



Results in poisonings among users or non-users



Harmful and Potentially Harmful Ingredients in ENDS Aerosol



Nicotine Poses Unique Dangers to the Developing Human

Nicotine is toxic to developing fetuses and impairs fetal brain and lung development

Poisonings occur among users via ingestion of nicotine liquid, absorption through skin, and inhalation

Nicotine use while adolescent brain is developing can disrupt brain circuit formation



ENDS can be Modified to Accommodate Other Psychoactive Substances

"I was on the train from New York to Baltimore and I enjoyed the pen the whole way there and back with no one noticing," said one life-long marijuana user who asked not to be identified. "I absolutely was thinking 'This is not bad at all.'"



Is there a potential benefit for ENDS?

Under certain circumstances



Complete long term substitution by established smokers



Assist in rapid transition to a society with little or no use of combustible products



Short-term use if shown to produce successful and permanent cessation of combustible products

4

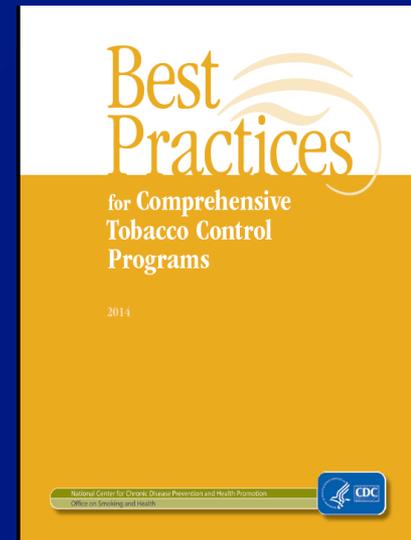
**What are Some
ENDS Policy
Options?**

Tobacco Control Works:

MAJOR CONCLUSION #8

“Since the 1964 Surgeon General’s report, comprehensive tobacco control programs and policies have been proven effective for controlling tobacco use. Further gains can be made with the full, forceful, and sustained use of these measures.”

- Since 1964 tobacco control:
 - Prevented over **8 million** early deaths
 - Saved **157 million** life years



Public Health Actions to Address E-cigarettes

Federal Regulation

Family Smoking Prevention and Tobacco Control Act

- Signed into law on June 22, 2009
- Granted FDA the authority to regulate tobacco products
- Enhances the ability to intensify policy to reduce tobacco industry influence
 - Manufacturing
 - Marketing
 - Sale

State, Local, Tribal

Potential Sub-National Action:

- Including e-cigarettes in smokefree indoor air policies
- Restricting youth access to e-cigarettes in retail settings
- Licensing retailers
- Establishing specific package requirements
- Setting price policies

Evidence-Based Interventions are Key: Protect Clean Indoor Air Standards

- ENDS aerosol is not “harmless water vapor.”
- ENDS aerosol contains nicotine, as well as additional toxins, and is not as safe as clean air.
- Clean air—free of smoke and ENDS aerosol—protects the health of bystanders, prevents tobacco use initiation among youth, and encourages complete smoking cessation.

FDA Acts To Regulate E-Cigarettes And Cigars For The First Time

- ❑ The Food and Drug Administration is banning the sale of electronic cigarettes to minors as part of a broad set of regulations the agency finalized Wednesday.
- ❑ With the rules that were more than two years in the making, the agency is expanding its authority over e-cigarettes, cigars and hookah tobacco, in much the same way it already regulates traditional cigarettes.
- ❑ In addition to barring sales of tobacco products and e-cigarettes to people under age 18, the FDA would impose other restrictions, including:

- ❑ **A requirement that e-cigarettes carry warnings that they contain nicotine, which is addictive**
- ❑ **A prohibition on distribution of free samples**
- ❑ **A ban on selling e-cigarettes in vending machines unless they are in secure places that never admit young people**

Key Take Away Points



Summary

- ✓ Youth and adult ENDS use is increasing rapidly.
- ✓ Youth use of nicotine or tobacco in any form is dangerous.
- ✓ Adults must quit smoking cigarettes completely to realize potential benefits of ENDS.

Policy Approaches

- ✓ No marketing or sales to kids
- ✓ Clean air is the standard
- ✓ Pedal to the metal on combustible tobacco