

The Truth About Electronic Nicotine Delivery Devices

Asthma Initiative of Michigan

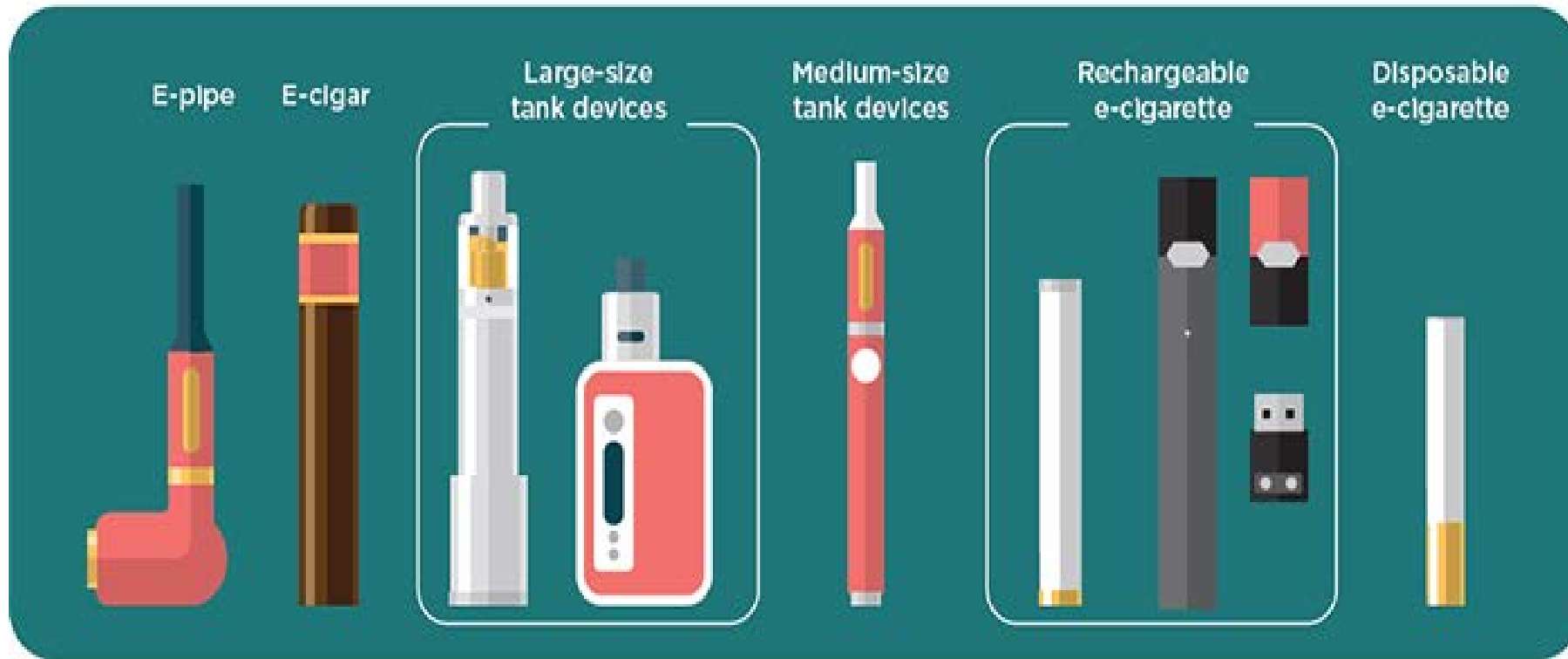
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Lisa Knight, Director of Health and Wellness, Grand Rapids Urban League

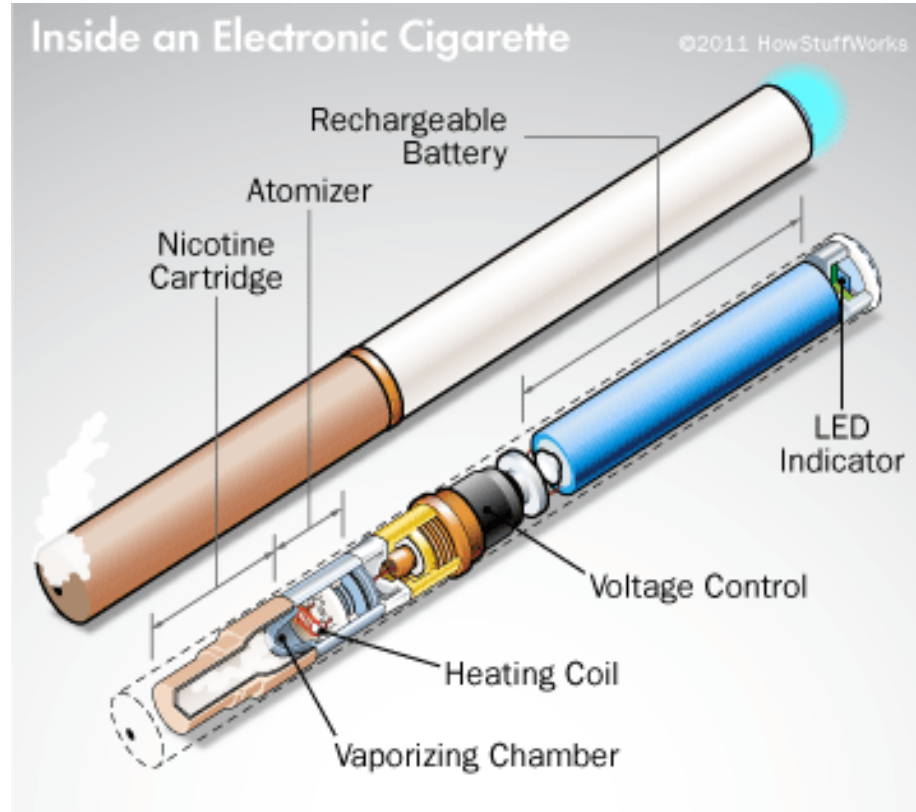
Highlights of today's presentation

- ▶ Describe how electronic nicotine delivery devices operate
- ▶ Public health consequences, safety and health concerns of e-cigarettes
- ▶ Why youth are using these products
- ▶ E-cigarettes in Michigan - use and access
- ▶ ENDS resources

Electronic nicotine delivery devices (ENDS)



Electronic Cigarettes



- Allows user to inhale aerosol containing nicotine and/or other substances.
- Disposable or rechargeable and/or refillable.
- Contain a cartridge filled with liquid nicotine, flavorings and glycerin or propylene glycol.
- When coil heats, it converts the contents of the cartridge into aerosol.

What are E-cigarettes NOT?

- ▶ E-cigarettes are NOT an approved U.S. Food and Drug Administration (FDA) quit tobacco device and should NOT be marketed as such.
 - ▶ 9/22/15: U.S. Preventive Services Task Force: “the evidence on the use of ENDS for tobacco cessation is insufficient...”
- ▶ E-cigarettes are NOT a safe alternative to other forms of tobacco

...despite this, we are seeing a lot of false claims...

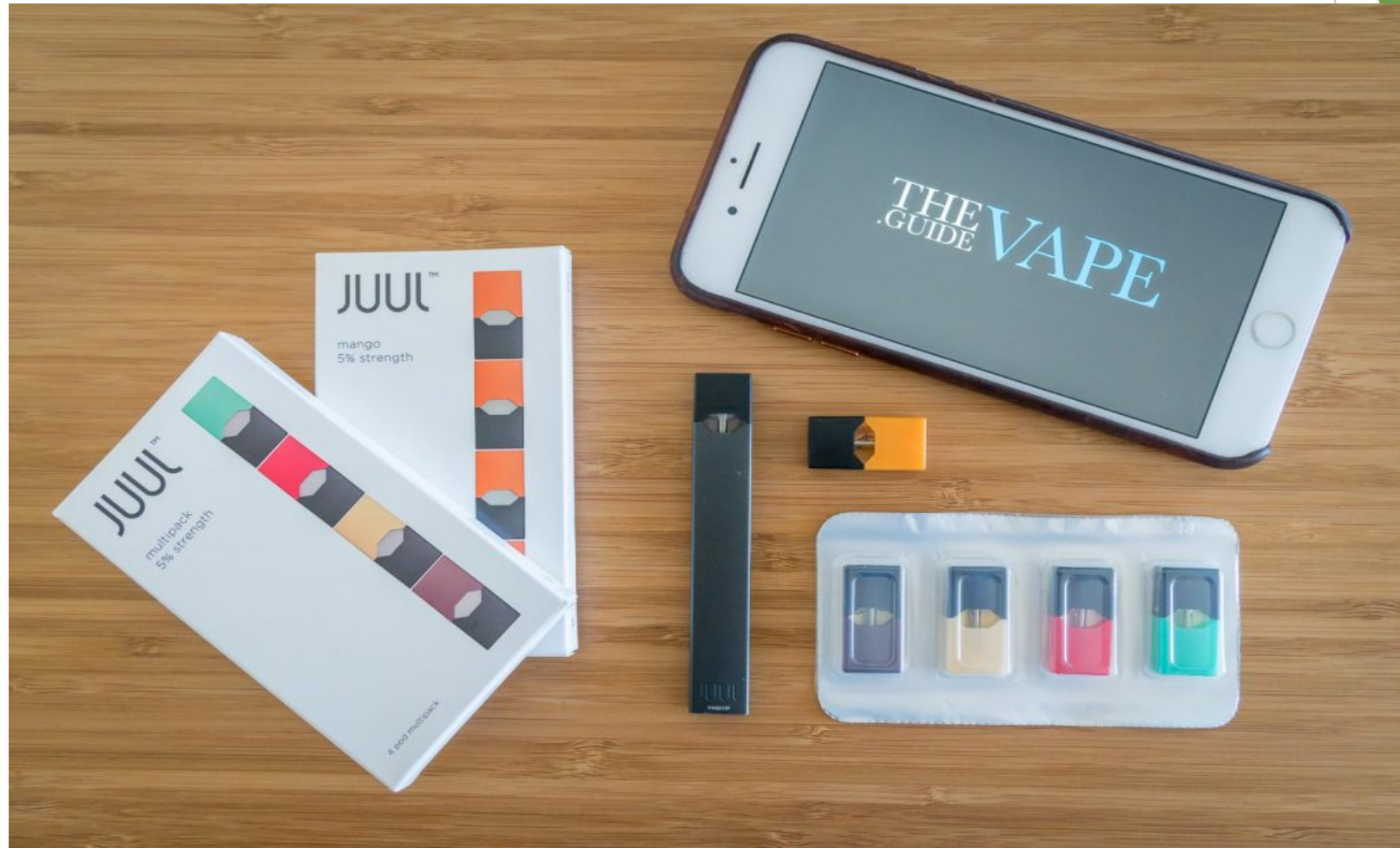


IQOS - I Quit Ordinary Smoking

HEAT-NOT-BURN CIGARETTES



JUUL



E-Cig 4-wk Share Performance Overall



Tobacco Control journal article: Recognition, use and perceptions of JUUL among youth and young adults, April 2018

- ▶ 25% of 15-24 year olds recognized JUUL
- ▶ 10% had ever used a JUUL; 8% used in past 30 days
- ▶ Use significantly higher for males, higher SES and 18-24 year olds
- ▶ 25% of those who recognized JUUL referred to use as “JUULing”
- ▶ Most were not aware that JUUL pods always contain nicotine.

Tobacco Control journal article: Recognition, use and perceptions of JUUL among youth and young adults, April 2018

Nearly 1-in-5 youth have seen JUUL used at their school.

Of youth who have ever used JUUL, one-in-three have used marijuana with the device.

Youth largely obtained JUUL through physical retail outlets or social sources. Youth reported relative ease obtaining JUUL devices online.

Nearly half of those who are aware of JUUL believe it is “a lot” or “a little” LESS harmful than cigarettes.

Zig Zag 335



PUFFiT



E-cigarette (ENDS) Myths vs. Facts

► Myth 1:

There is no gateway effect

A recent meta-analysis shows 100% consistent evidence that never cigarette smoking youth who begin nicotine use with e-cigarettes are significantly more likely to progress to cigarette smoking than youth who do not use e-cigarettes.

E-cigarette (ENDS) Myths vs. Facts

► Myth 2:

E-cigarettes increase smoking cessation.

A meta-analysis showed that, considering all available data at the time, e-cigarettes are associated with depressed cessation.

E-cigarette (ENDS) Myths vs. Facts

Myth 3:

E-cigarettes are 95% safer than conventional cigarettes.

- ▶ This assumption is based on the paper by Nutt et al that represented the opinions of a few 'experts' without citing any specific supporting evidence. The process by which this paper was prepared has been criticized for conflicts of interest among some of the authors.

E-cigarette (ENDS) Myths vs. Facts

Myth 4:

Even if smokers don't quit when they use e-cigarettes they smoke fewer cigarettes and the health risks go down substantially in smokers that reduce consumption.

Even low levels of smoking convey substantial risks, especially for cardiovascular disease, where smoking even a few cigarettes is as dangerous as smoking 20 cigarettes a day.

E-cigarette (ENDS) Myths vs. Facts

Myth 5:

Nicotine is addictive, but it doesn't pose any other substantial risks.

Nicotine is a reproductive toxin. While not a carcinogen, nicotine plays an important role in promoting tumor progression and inhibiting normal cell death. It accelerates atherosclerosis and aggravates lung disease and other diseases.

Health Concerns

- ▶ Dual Use
- ▶ Flavorings
- ▶ Primary, Secondhand, Thirdhand Aerosol Exposure



A TIP FROM A FORMER SMOKER

I started using e-cigarettes but kept smoking. Right up until my lung collapsed.

Kristy, age 35, Tennessee

Kristy had smoker's cough and severe shortness of breath. She tried using e-cigarettes to cut down on her smoking. She thought cutting down would make her feel better, but it didn't. She kept smoking cigarettes until her lung collapsed.

Even smoking a few cigarettes a day is dangerous.

You can quit smoking.

CALL 1-800-QUIT-NOW.



 U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
CDC.gov/tips

#CDCTips

Connection to asthma and lung damage

- ▶ **Short-term Pulmonary Effects of Using an Electronic Cigarette : Impact on Respiratory Flow Resistance, Impedance, and Exhaled Nitric Oxide** Chest, volume 141, Issue 6, June 2012, pgs. 1400-1406

We conclude that e-cigarette use by adolescents is independently associated with asthma. This finding is consistent with recent laboratory research on pulmonary effects from ecigarette vapor. E-cigarette use and asthma in a multiethnic sample of adolescents. Prev Med <https://doi.org/10.1016/j.ypmed.2017.09.023>

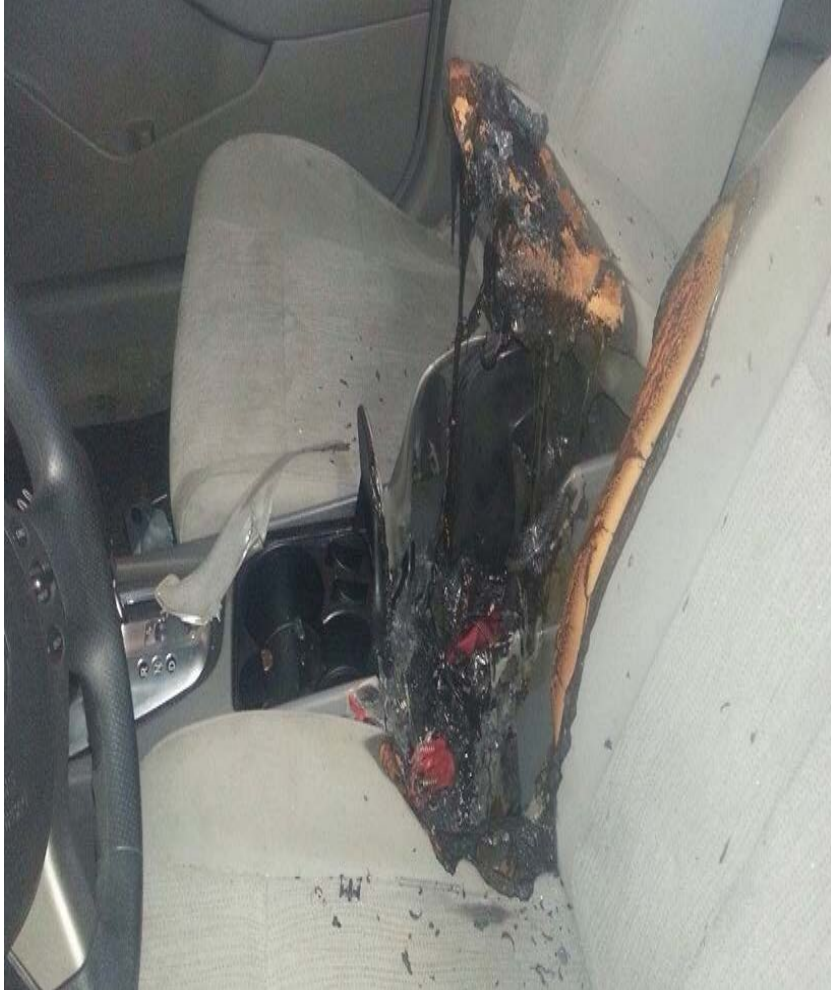
- ▶ **Airway Exposure to E-Cigarette Vapors Impairs Autophagy and Induces Aggresome Formation Antioxidants & Redox Signaling.** January 2016, 24(4): 186-204. doi:10.1089/ars.2015.6367.

E-Cigarettes assessed in the context of this study were found to have immediate adverse physiologic effects after short-term use that are similar to some of the effects seen with tobacco smoking.

Health *and* Safety Concerns

- ▶ **Reported Impacts to FDA:**
 - ▶ Pneumonia
 - ▶ Congestive heart failure
 - ▶ Disorientation
 - ▶ Seizure
 - ▶ Hypotension, and others
- ▶ Enables discreet use of other drugs (heroin, marijuana, crack cocaine)
- **Lack of quality control**
 - In 2009, the FDA tested the ingredients of cartridges from two leading brands of e-cigarettes and found levels of cancer-causing and toxic chemicals, including diethylene glycol, an ingredient in **antifreeze**.
 - Some cartridges labeled as containing no nicotine had nicotine.

Safety Concerns



- Explosions
- Charger danger
- Fires
- Poisoning
- Hazardous Waste & Litter

Safety Concerns



Social Concerns

- Social norm reversal.
- Marketed to maintain addiction.
- Playing out of Big Tobacco's playbook:
 - Back on TV.
 - In the workplace.
 - In schools.
 - False health claims.
 - Aimed at youth.



Vapor Shark E-Cigarette Billboard, Florida, 2013

Dripping



Concern: Youth Interest

- ▶ Youth perceive e-cigarettes and other new generation tobacco products to be less harmful than cigarettes.
- ▶ Possible 'gateway phenomenon'



Concern: Youth Interest

Most e-cigarettes contain **NICOTINE**, which causes **ADDICTION**, may harm brain development, and could lead to continued tobacco product use among youth.



CDC guidance – what's the bottom line?

E-cigarettes (ENDS) products are not safe for youth, young adults, pregnant women or adults who do not currently use tobacco products.

If you've never smoked or used other tobacco products or e-cigarettes, don't start.

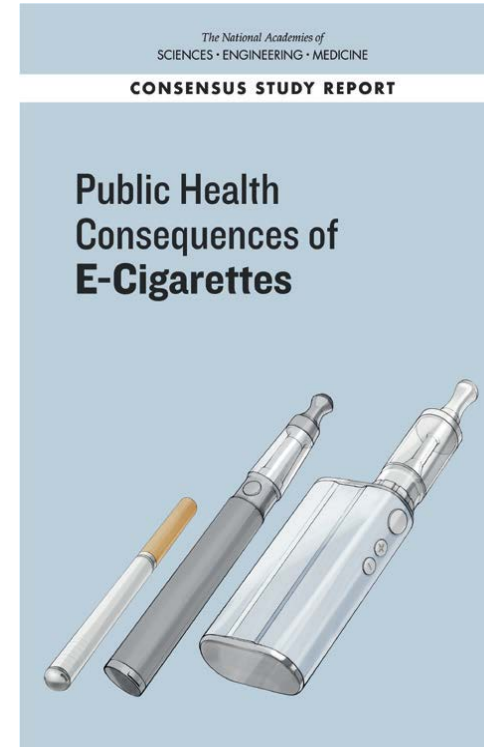
Scientists still have a lot to learn about whether e-cigarettes are effective for quitting smoking.

Public Health Consequence of E-Cigarettes

BOTTOM LINE:

“Overall, the evidence reviewed by the committee suggests that e-cigarettes are not without biological effects in humans. For instance, use of e-cigarettes results in dependence on the devices, though with apparently less risk and severity than that of combustible tobacco cigarettes. Yet the implications for long-term effects on morbidity and mortality are not yet clear.”

<http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx>



FDA Deeming Rule

- **New Regulation**
 - FDA had not been regulating the manufacture of e-cigarette components or contents, until the Deeming Rule - August 8, 2016
 - Now covers e-cigarettes and ENDS, hookah, cigars, pipe tobacco (and pipes), dissolvables, nicotine gels, e-liquid
 - Gives the FDA authority to regulate the manufacture, distribution and marketing of ALL products that are defined as tobacco products.

FDA Deeming Rule

In addition, there are several provisions aimed at restricting youth access to tobacco products, including:

- ▶ Not allowing products to be sold to persons under the age of 18 years (both in-person and online);
- ▶ Requiring age verification by photo ID;
- ▶ Not allowing the selling of tobacco products in vending machines (unless in an adult-only facility); and
- ▶ Not allowing the distribution of free samples.

E-Cigarettes in Michigan

- ▶ Federal Law (Deeming) prohibits retailers from selling e-cigarettes, e-hookah, and other ENDS products, their components and refills to minors.

Michigan Law does not treat e-cigarettes as a tobacco product, so:

- ▶ E-cigarettes and their components are not currently subject to the Tobacco Tax.
- ▶ E-cigarettes are not covered by the Smoke-Free Air Law.

E-Cigarettes in Michigan



- ▶ **Local Action! E-Cig Bans in...**
 - ▶ **Parks, Other Outdoor Locations:** Ann Arbor, Washtenaw County, Hastings
 - ▶ **Indoor Air:** Washtenaw County, Luce, Mackinac, Alger & Schoolcraft counties
 - ▶ **Government Buildings and Vehicles for Employees:** Genesee & Oakland Counties, Branch-Hillsdale-St. Joseph Community Health Agency, Michigan LARA, Michigan DHHS, Michigan DEQ
 - ▶ Ingham County-owned & operated buildings
 - ▶ **Sales to Minors:** Birmingham, Rochester Hills, Rochester, Sterling Heights, Marquette County, Luce, Mackinac, Alger & Schoolcraft Counties

Quit Tobacco Resources

- ▶ www.Michigan.gov/tobacco

MI Department of Health and Human Services Tobacco Section website offers resources, fact sheets and information on quitting.

- ▶ <https://Michigan.quitlogix.org>

The Michigan Tobacco Quitline site offers information on how to quit, a smoking calculator and more. Works with teens age 13 and over.

Youth Quit Tobacco Resources

https://e-cigarettes.surgeongeneral.gov/documents/SGR_ECig_ParentTipSheet_508.pdf

Smokefree Teen

- ▶ Free text message quit tobacco service that provides 24/7 encouragement, advice and tips to teens trying to quit smoking. Once signed up, teens receive text messages timed according to their selected quit date and for up to six weeks afterward. Teens can sign up online at www.teen.smokefree.gov or text QUIT to iQUIT(47848)
- Free smartphone application – QuitSTART – an intensive quit guide for teens that delivers cessation and mood management tips, tracks cravings and monitors quit attempts

Youth Quit Tobacco Resources

Tobacco Free Kids

- Contains fact sheets and advocacy information. Site for information for Kick Butts Day held annually in March.
<http://www.tobaccofreekids.org>

Smoking Stinks

- A youth quit smoking website containing free downloads, quizzes, quit tips and more <http://smokingstinks.org/>

The Truth and Finish It

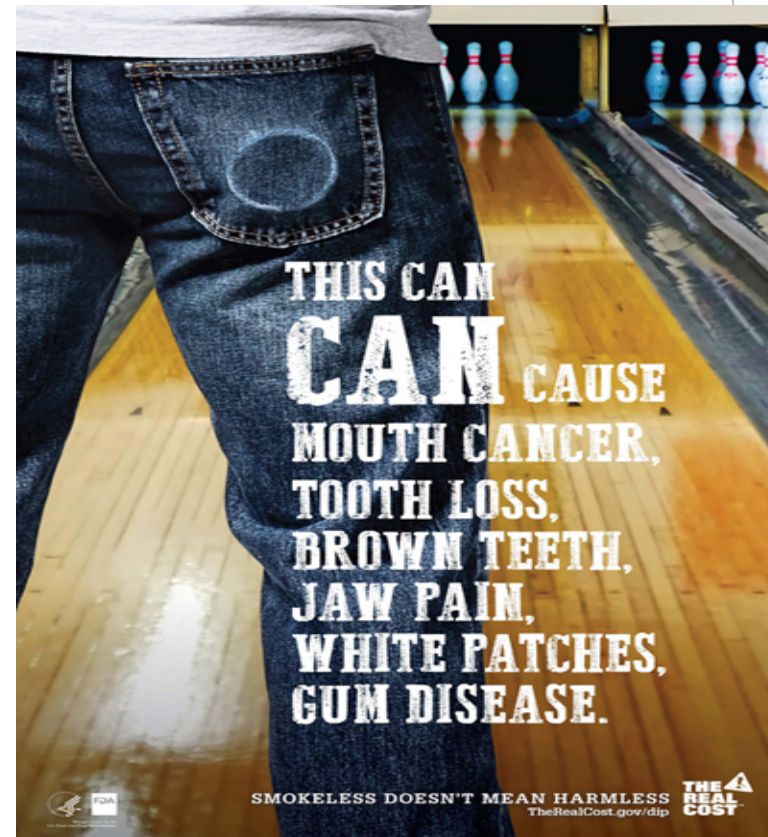
- Educates youth about the dangers of tobacco, media and tobacco industry awareness and quitting smoking
<http://www.thetruth.com/>

American Academy of Pediatrics www.healthychildren.org

Youth Quit Tobacco Resources

- ▶ The Real Cost

<https://therealcost.betobaccofree.hhs.gov/?g=t>



Tobacco Prevention Toolkit for educators,
administrators, parents/guardians and
anyone who works with youth



<http://tobaccopreventiontoolkit.stanford.edu>

JUUL - resources

- ▶ JUUL and youth: rising e-cigarette popularity, Tobacco Free Kids
<https://www.tobaccofreekids.org/assets/factsheets/0394.pdf>
- ▶ *Jeffrey G. Willett et al., Recognition, use and perceptions of JUUL among youth and young adults*, Tobacco Control (4/2018)
- ▶ JUUL and the Guinea Pig Generation factsheet
<http://www.publichealthlawcenter.org/sites/default/files/resources/JUUL-and-the-Guinea-Pig-Generation-2018.pdf>

What else can be done?

- ▶ **NEW!** Tell the FDA about faulty tobacco products! www.safetyreporting.hhs.gov
- ▶ Talk to your colleagues and state level decision makers about:
 - ▶ Tobacco 21 a state law
 - ▶ Raising tobacco products taxes
 - ▶ Dedicating Master Settlement Agreement dollars to tobacco prevention
- ▶ Contact MDHHS Tobacco Section for other questions:
 - ▶ Elaine Lyon lyone@Michigan.gov