

A photograph of a school building with a curved facade. The word "SCHOOL" is written in large, grey, three-dimensional letters on the light-colored tiled wall. To the right, there is a section of the building with large glass windows. The sky is blue with some light clouds.

SCHOOL

# ACES

Adolescent Cessation in Every School

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An evidence-based adolescent tobacco cessation  
toolkit for the school setting, Third Edition

[www.cessationineveryschool.org](http://www.cessationineveryschool.org)



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# Testimony

## Why the ACES toolkit?

"Missouri does not provide state funding for a formalized adolescent tobacco cessation program, therefore the programs are developed at a local/community level where funding and program content may be inadequate. This toolkit can be used in schools where interaction with students during the school day is consistent and provided by a school nurse."

**"Due to Missouri's failing grade in addressing youth tobacco use, it is time that school districts take an active role in assisting our kids to quit. This toolkit provides an easy-to-follow format that does not place an undue burden on school staff to implement. It is evidence based and contains all pieces necessary in assisting youth, as well as adults, to be successful in their attempt to quit the use of tobacco products."**

"It is a helpful resource for school nursing and other school personnel."

"The rate of tobacco use in Missouri needs to be effectively addressed. One approach is to assist adolescents with tools to quit. The toolkit is designed to assist the School Nurse or other school personnel to help students create a plan to quit, and assist with support the students will need through the process."

"After serving as a cessation coach, I find this toolkit to be incredibly thorough, comprehensive and successfully provides all the necessary pieces to implement a cessation program."

**"Currently, the Missouri school smoking rate is higher than the national average. This toolkit provides schools with an evidence based approach to help our teens to quit smoking."**

"This is an easy, low-cost way to make the teens in Missouri healthier."

"This toolkit will take little prep time to utilize in group or one-on-one settings. More important, it does not require that the user attend an off-site training or purchase an expensive curriculum prior to implementing."

## Importance of adolescent tobacco cessation

**"Our youth are the future of our state. In addition to the research that links improved health with improved academic success, the physical effects on an adolescent's body can be long lasting. The sooner the cessation, the lower the risk of an adolescent becoming an adult tobacco user."**

"The adolescent brain is extremely susceptible to nicotine addiction. The vast majority of adult smokers started before age 18 and nearly all smokers before age 25. Yet, research is limited on effective strategies for helping youth to quit."

"Tobacco use has been linked to many health issues that lead to death. An effective tobacco cessation intervention during adolescence can prevent nicotine addiction and severe health consequences later as an adult."

"Nicotine is addictive and tobacco in general increases the risk of pulmonary and cardiovascular diseases. Tobacco cessation will improve the overall health of an adolescent."

**"Adolescents have the right to live a life free from the influence of Big Tobacco. It is the responsibility of adults to assist youth in learning all facts related to tobacco use as well as long-term health effects, thus lessening a young person's chance of developing a tobacco-related illness."**

"Adolescent tobacco cessation is important because evidence shows that the vast majority of current adult smokers experience initiation prior to the age of 18."

"If we can cut down on the number of children coming out of high school that are [tobacco users], we can make an impact on the health of many people in the State of Missouri."

**"Youth are at an increased risk of becoming addicted to nicotine. By providing an adolescent tobacco cessation program in schools across Missouri, students will have access to quit assistance in a convenient location. Helping these students quit early on in their smoking career will decrease their growth in addiction throughout the years."**

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**There are training videos which accompany the ACES toolkit. These videos cover:**

- The development, purpose, and use of the ACES toolkit
- Nicotine and tobacco use among adolescents
- Tobacco, vaping, & critical adolescent health issues
- The 5As, motivational interviewing, and how to help and adolescent tobacco user develop a quit plan
- Nicotine replacement therapies and other resources for quitting

**To view the training videos, visit [cessationineveryschool.org](https://cessationineveryschool.org).**



# Section 1: Background

# Overview

As professionals who work with youth, we strive to make our schools safe and healthy environments that promote learning, healthy behavior choices, and overall well-being. **We recognize that young people have to be healthy in order to be effective learners and grow into successful young adults.** We focus much of our time on educating and intervening with youth who are participating in risky behavior such as alcohol use, marijuana, methamphetamine and other substance use, and it is critical that we address tobacco use alongside these other substances. Although tobacco use is legal for adults over age 21, it is the only product that, if used as intended, will ultimately kill half of the people who use it.<sup>1</sup> If you or someone you know has ever tried to quit tobacco, you know the challenge of breaking a nicotine addiction. As advocates for the health and education of young people, we cannot ignore tobacco use among this age group.

**Nicotine addiction has no place in schools.** Experimentation with tobacco and nicotine addiction almost always begins by the time young people graduate from high school.<sup>2</sup> This early exposure to nicotine and the resulting addiction negatively affects brain development in young people and has major implications for future tobacco use, engagement in other risky behaviors, and both short- and long-term adverse impact on health.<sup>3</sup> As professionals who work with youth on a daily basis in the school setting, we have an obligation to help young people live lives free from addiction.

In 2019, 49.3% of Missouri high school students who use tobacco have tried to quit in the past year.<sup>4</sup> However, few (8.9%) Missouri high school students who currently smoke or use tobacco had participated in a program to help them quit, and only 4.1% of these students reported having programs at school to help them quit.<sup>5</sup> Schools that provide tobacco cessation for students will see immediate health benefits, and this is one of the most cost effective health services available.<sup>4</sup> The cessation tools and resources provided in this toolkit are grounded in theories of health behavior change, best practices for cessation and evidence-based literature, and have been tailored for use with adolescents. **These tools can be used for one-on-one interventions with adolescent tobacco users and emphasize building the coping skills that are needed to successfully quit tobacco.**

## Who is this toolkit for?

This toolkit is for professionals who work with youth, especially in a school-based setting. This includes but is not limited to:

- School nurses
- Health aides
- Administration
- Faculty
- Counselors
- Social workers
- Health teachers
- Physical education teachers
- Coaches
- Resource officers



## Who do these tools benefit?

Adolescent tobacco users, ages 13-18

### References

1. World Health Organization. (2015). Tobacco fact sheet. Retrieved from: <<http://www.who.int/mediacentre/factsheets/fs339/en/>>.
2. U.S. Department of Health and Human Services. (2012). Preventing tobacco use among young people and young adults: A report of the Surgeon General. Retrieved from: <<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>>.
3. Campaign for Tobacco Free Kids. (2015). The path to tobacco addiction starts at very young ages. Retrieved from: <<http://www.tobaccofreekids.org/research/factsheets/pdf/0127.pdf>>.
4. 2019 Youth Risk Behavior Survey Results.
5. Missouri Department of Health and Senior Services. (2014). Missouri school health profiles: 2014 key findings. Retrieved from: [http://dese.mo.gov/sites/default/files/HPE\\_Missouri\\_2014\\_School\\_Health\\_Profiles\\_Report\\_0.pdf](http://dese.mo.gov/sites/default/files/HPE_Missouri_2014_School_Health_Profiles_Report_0.pdf)

# Nicotine Addiction

**Nicotine addiction can occur as quickly as a few days after experimental smoking.**<sup>1</sup> The adolescent body and brain are still developing, making youth especially vulnerable to addiction.<sup>2</sup>

Nicotine has lasting and adverse consequences for the brain.<sup>2</sup> Once nicotine enters the body it makes its way to the brain. Nicotine molecules then attach to receptors in the brain, causing the release of the feel-good neurotransmitter dopamine. This spike of dopamine produces self-confidence, euphoria and alertness. However, regular use of tobacco and exposure to nicotine leads to over-stimulation of these brain receptors. In response to over-stimulation the brain down-regulates these receptors, making them less sensitive. The only thing that brings a tobacco user's brain back to a near normal balance again is further use of tobacco and more nicotine. This effect is heightened in the developing brains of adolescents - their receptors ramp up and down much faster, more thoroughly and more permanently than adults.<sup>3</sup>



Tobacco use is often an indicator of engagement in other risky behaviors. Research has shown that teen tobacco users are more likely to use alcohol and illegal drugs than are non-users.<sup>4</sup> Tobacco users are also more likely to: get into fights, carry weapons, attempt suicide, suffer from mental health problems such as depression and engage in high-risk sexual behaviors.<sup>5</sup> This doesn't necessarily mean that tobacco use caused these behaviors, but they're more common in teens who use tobacco. Tobacco use is a warning sign that a young person needs support and services.

**The younger a person is when he or she begins using tobacco, the higher the risk that this youth will become a daily tobacco user and be less likely to successfully quit.**<sup>6</sup> Symptoms of addiction, such as strong cravings, irritability and anxiety can appear in youth within just days or weeks of occasional smoking, even before daily smoking is established.<sup>1</sup>

Adolescents underestimate the addictiveness of nicotine.<sup>7</sup> Compared to nonsmokers, adolescent smokers (occasional and daily) are more likely to believe that they can quit at any time.<sup>7</sup> Not surprisingly, adolescent tobacco users often make unassisted quit attempts and do not rely on best practices for cessation when doing so. In fact, only 4% of adolescent smokers successfully quit each year,<sup>9-10</sup> which is lower than the rate of successful quit attempts among adult smokers.<sup>11</sup>

**Research finds that 48% of young people make a quit attempt while in high school and fail due to the addictiveness of nicotine.<sup>2</sup> Moreover, 75% of these youth will continue smoking into adulthood despite their desire to quit.<sup>2</sup>**

Not only is tobacco physiologically addicting due to the drug nicotine, the process of using tobacco also becomes a learned habit. Just as one learns to use tobacco over a period of time, it will take time to unlearn the habit. These learned behaviors combine with nicotine to make a highly addictive practice. In fact, when health care professionals rank the addictiveness of drugs, nicotine tops the list - higher than methamphetamine and heroin.<sup>12</sup>



Nicotine dependence results from a combination of physiological and psychological factors, and effective cessation approaches should address both. For example, physical dependence can be addressed by slowly reducing the amount of tobacco used over a period of time or by using a Food and Drug Administration (FDA) approved nicotine replacement therapy product (see page 35). At the same time, the psychological and behavioral aspects of addiction should be addressed by identifying triggers and developing coping strategies, which can be accomplished through the use of a quit plan (see page 23).



#### References

1. DiFranza, J. R., Rigotti, N. A., McNeill, A. D., Ockene, J. K., Savageau, J. A., St Cyr, D., and Coleman, M. (2000). Initial symptoms of nicotine dependence in adolescents. *Tobacco Control*, 9(3), 313-319.
2. Department of Health and Human Services. (2012). Preventing tobacco use among youth and young adults: A report of the Surgeon General, 2012. Retrieved from: <<http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>>.
3. Preventing Tobacco Addiction Foundation. (2015). Nicotene brain. Retrieved from: <<http://tobacco21.org/kids-tobacco/>>.
4. Campaign for Tobacco Free Kids. (2015). Smoking and other drug use. Retrieved from: <<http://www.tobaccofreekids.org/research/factsheets/pdf/0106.pdf>>.
5. American Cancer Society. (2014). Child and teen tobacco use. Retrieved from: <<http://www.cancer.org/cancer/cancercauses/tobaccocancer/childandteentobaccouse/child-and-teen-tobacco-use-child-and-teen-tobacco-use>>.
6. Khuder, S. A., Dayal, H. H., and Mutgi, A. B. (1999). Age at smoking onset and its effect on smoking cessation. *Addictive Behaviors*, 24(5), 673-677.
7. Fiore, M., Jaen, C. R., Baker, T. B., Bailey, W. C., Benowitz, N. L., Curry, S. E. A., Dorfman, S. F., ... and Wewers, M. E. (2008). Treating tobacco use and dependence: 2008 update. Retrieved from <<http://www.ncbi.nlm.nih.gov/books/NBK63952/>>.
8. Al-Delaimy, W. K., White, M. M., and Pierce, J. P. (2006). Adolescents' perceptions about quitting and nicotine replacement therapy: Findings from the California tobacco survey. *Journal of Adolescent Health*, 38(4), 465-468.
9. Zhu, S. H., Sun, J., Billings, S. C., Choi, W. S., and Malarcher, A. (1999). Predictors of smoking cessation in U.S. adolescents. *American Journal of Preventive Medicine*, 16(3), 202-207.
10. Engels, R. C., Knibbe, R. A., de Vries, H., and Drop, M. J. (1998). Antecedents of smoking cessation among adolescents: Who is motivated to change?. *Preventive Medicine*, 27(3), 348-357.
11. Centers for Disease Control and Prevention. (2006). Use of cessation methods among smokers aged 16-24 years--United States, 2003. *Morbidity and Mortality Weekly Report*, 55(50), 1351.
12. Perrine, D. (1996). The chemistry of mind-altering drugs. *The American Chemical Society*, 7.

# Critical Health Issues

## Asthma and Tobacco

Asthma is a chronic disease that produces inflammation in the airways and lungs.<sup>1</sup> Asthma symptoms may include difficulty breathing, coughing, and chest pain.<sup>1</sup> Across the nation, there are approximately 5.5 million adolescents under the age of 18 diagnosed with asthma,<sup>2</sup> and there are approximately 120,000 adolescents in Missouri who are living with asthma.<sup>3</sup>

There are many environmental stimuli that have been identified as contributing to the development of asthma and the onset of asthma attacks,<sup>1</sup> and **smoke from tobacco products is a major asthma trigger.**<sup>4</sup> In addition, e-cigarette aerosol contains materials - such as heavy metals, nicotine, and carcinogens - that negatively impact lung health.<sup>5</sup> Despite the risks, adolescents with asthma continue to use tobacco and e-cigarette products. Results from a survey of high school students found that there was a 50% greater likelihood of asthma among adolescents who were using e-cigarettes compared to those who did not use these products, even after controlling for demographics and cigarette smoking.<sup>6</sup>



Additionally, secondhand tobacco smoke plays a role in the prevalence of adolescent asthma. A 2015 report found that households with a child with asthma were more likely to report exposure to smoke in the home (18.1%) compared to households that did not report a child with asthma (12.9%).<sup>7</sup> Moreover, 22.1% of adolescents with asthma were living in low-income households, which have shown higher instances of secondhand tobacco smoke exposure compared to middle- and high-income households.<sup>7</sup>

**Adolescents with asthma should quit using tobacco and e-cigarette products, and households with children with asthma should not allow tobacco or e-cigarette product use in the home.**

### References

1. Centers for Disease Control and Prevention. (2019). Learn How to Control Asthma. Retrieved from <<https://www.cdc.gov/asthma/faqs.htm>>
2. Centers for Disease Control and Prevention. (2020). Most Recent National Asthma Data. Retrieved from <[https://www.cdc.gov/asthma/most\\_recent\\_national\\_asthma\\_data.htm](https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm)>
3. Missouri Department of Health & Senior Services. (2019). Asthma in Missouri 2019 Brief. Retrieved from <<https://health.mo.gov/living/healthcondiseases/chronic/asthma/pdf/asthma-in-mo-brief.pdf>>
4. Centers for Disease Control and Prevention. (2020). Common Asthma Triggers. Retrieved from <<https://www.cdc.gov/asthma/triggers.html>>
5. Centers for Disease Control and Prevention. (2019). Electronic cigarettes. Retrieved from <[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/pdfs/Electronic-Cigarettes-Infographic-p.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/Electronic-Cigarettes-Infographic-p.pdf)>
6. Schweitzer, R. J., Wills, T. A., Tam, E., Pagano, I., & Choi, K. (2017). E-cigarette use and asthma in a multiethnic sample of adolescents. *Preventive Medicine*, 105, 226-231.
7. Ganesh, B., Scally, C. P., Skopec, L., & Zhu, J. (2017). The Relationship between Housing and Asthma among School-Age Children. Retrieved from <[https://www.urban.org/sites/default/files/publication/93881/the-relationships-between-housing-and-asthma\\_0.pdf](https://www.urban.org/sites/default/files/publication/93881/the-relationships-between-housing-and-asthma_0.pdf)>



## COVID-19 and Tobacco

**Early research indicates adolescents who smoke and/or vape are more susceptible to contracting and showing symptoms of severe cases of COVID-19.**<sup>1</sup> In fact, a recent study found that youth who had ever used an e-cigarette had a five times higher chance of testing positive for COVID-19 than youth who had never used an e-cigarette.<sup>2</sup> Even more alarming, youth who had used both an e-cigarette and cigarette within the past 30 days had a seven times higher chance of testing positive for COVID-19.<sup>2</sup>

Well-established evidence demonstrates that smoking suppresses the immune system and triggers inflammation, and early research on vaping indicates similar effects.<sup>3,4</sup> Damage to the body's immune function allows viruses to attach to lung cells, providing easier access into the lungs.<sup>5</sup> For example, recent research found that 12.4% of adults who smoked and tested positive for COVID-19 were admitted to intensive care or died from the serious disease, as compared to 4.7% of adult cases who had never smoked.<sup>6</sup> In addition, individuals who smoke are at a higher risk of developing chronic respiratory infections and lung disease, which are associated with severe illness from COVID-19.<sup>7,8</sup>

Adolescents and young adults may be unaware that the use of e-cigarette devices could make them more susceptible to contracting COVID-19.<sup>9</sup> In a study of over 1000 adolescents (15-24 years old), only 44% thought that an association existed between the use of e-cigarettes and contracting COVID-19.<sup>9</sup> Action needs to be taken to educate adolescents and young adults who smoke or vape about their vulnerability to viruses, including COVID-19.

Getting vaccinated can help protect you from COVID-19.<sup>12</sup>

## EVALI and Tobacco

**E-cigarette or vaping product use-associated lung injury (abbreviated EVALI) is a newly identified lung disease.**<sup>10</sup> Symptoms include shortness of breath, fever, cough, vomiting, headache, and more.<sup>11</sup> As of February 2020, there have been a reported 2,807 cases of EVALI throughout the United States, resulting in a confirmed 68 deaths.<sup>10</sup> There is currently no identified cure for EVALI.

While this severe illness is still being investigated, THC-containing e-cigarettes and vaping products have been identified as a strong contributor to the outbreak of EVALI in the United States.<sup>10</sup> Additionally, a strong association has been established between vitamin E acetate (an additive in THC-containing e-cigarettes) and EVALI.<sup>11</sup>

The CDC and FDA recommend e-cigarette/vaping products (nicotine- or THC-containing) should never be used by youths or young adults and that people should not use THC-containing e-cigarette/vaping products, particularly from informal sources like friends, family, or in-person or online dealers.<sup>10</sup>

1. Liu, W., Tao, Z. W., Wang, L., Yuan, M. L., Liu, K., Zhou, L., ... & Ming, Y. (2020). Analysis of factors associated with disease outcomes in hospitalized patients with 2019 novel coronavirus disease. *Chinese Medical Journal*, 133(9), 1032-1038.

2. Gaiha, S. M., Cheng, J., & Halpern-Felsher, B. (2020). Association between youth smoking, electronic cigarette use, and COVID-19. *Journal of Adolescent Health*, 67(4), 519-523.

3. Gots, J. E., Jordt, S. E., McConnell, R., & Tarran, R. (2019). What are the respiratory effects of e-cigarettes?. *BMJ*, 366, l5275.

4. King, B. A., Jones, C. M., Baldwin, G. T., & Briss, P. A. (2020). The EVALI and youth vaping epidemics—implications for public health. *New England Journal of Medicine*, 382(8), 689-691.

5. Healey, M. (2020). Smoking Vaping & COVID-19. Retrieved from <[https://neusha.org/wp-content/uploads/2020/04/AG-Healey\\_MGH-COVID\\_Vaping-Advisory.pdf](https://neusha.org/wp-content/uploads/2020/04/AG-Healey_MGH-COVID_Vaping-Advisory.pdf)>

6. New York State Academy of Family Physicians - Call for a Ban on the Sale of All Tobacco/Vaping Products During Pandemic Period, Statement on Link Between Tobacco Use and COVID-19 <<http://www.nysafp.org/News/What-s-New/COVID-19-Resources>>

7. Cohen, S., Tyrrell, D. A., Russell, M. A., Jarvis, M. J., & Smith, A. P. (1993). Smoking, alcohol consumption, and susceptibility to the common cold. *American Journal of Public Health*, 83(9), 1277-1283.

8. Volkow, N. (2020). COVID-19: Potential implications for individuals with substance use disorders. *National Institute on Drug Abuse*, 11.

9. Truth Initiative. (2020). Fewer than half of young people aware of connection between vaping and COVID-19 risk. Retrieved from <<https://truthinitiative.org/research-resources/emerging-tobacco-products/fewer-half-young-people-aware-connection-between>>

10. Centers for Disease Control and Prevention. (2020). Outbreak of Lung Injury Associated with the Use of E-Cigarette, or Vaping, Products. Retrieved from <[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)>.

11. American Lung Association. (2020). E-cigarette or Vaping Use-Associated Lung Injury (EVALI). Retrieved from <<https://www.lung.org/lung-health-diseases/lung-disease-lookup/evali>>.

12. Centers for Disease Control and Prevention. (2021). How to Protect Yourself and Others. Retrieved from <<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>>

# How Tobacco Harms Youth

It is important to understand the health and social consequences associated with tobacco use among young people. However, these lists should not be used to lecture or recite to young people. They provide a learning opportunity, and not all items on these lists may be of particular concern to any one young person. Everyone is uniquely motivated to quit tobacco use.

## Short-term health consequences:<sup>1-3</sup>

- Chronic coughing
- Asthma attacks
- Emphysema
- Bronchitis
- Increased susceptibility to the influenza with more severe symptoms
- Mild airway obstruction and reduced lung function
- Shortness of breath and increased phlegm
- Higher resting heart rates
- Decreased athletic performance and endurance
- Headaches
- Vision problems and hearing loss
- Halitosis (bad breath)
- Stained teeth
- Reduced sense of smell
- Decreased overall health

## Long-term health consequences:<sup>2-3</sup>

- Stunted lung growth (the lungs continue to grow until around age 20)
- DNA damage that can cause cancer
- Wrinkles
- Early cardiovascular disease (heart attacks and stroke)
- Damaged arteries (atherosclerotic lesions)
- Increased triglycerides
- Oral cancer
- Tooth decay and tooth loss (periodontal degeneration)



In addition to the health risks associated with smoking, using tobacco has negative impacts on a person socially. For some teens, these social consequences may be of more concern than health.<sup>4</sup>

#### **Social consequences:<sup>4</sup>**

- Smell of smoke on clothes, hair, and breath
- Makes one less attractive to others
- Often limits potential romantic partners
- Sexual dysfunction in males
- Lowers the ability to smell and taste
- Less money to spend
- Risk of getting caught using tobacco in places where it isn't allowed
- Having to hide or lie to people about the habit
- Not being a good role model for younger friends and siblings
- Irritability and lack of concentration when prevented from using tobacco (see withdrawal symptoms on page 32)
- Less likely to be hired by employers
- Trouble finding an apartment to rent because landlords prefer to rent to non-tobacco users
- Taking more sick days from work and school
- Repeatedly having to go outside to use tobacco
- Non-tobacco using friends may spend less time with the youth



#### References

1. Campaign for Tobacco Free Kids. (2015). Tobacco harm to kids. Retrieved from: <<http://www.tobaccofreekids.org/research/factsheets/pdf/0077.pdf>>.
2. Centers for Disease Control and Prevention. (2015). Smoking and tobacco use. Retrieved from: <[http://www.cdc.gov/tobacco/data\\_statistics/sgr/1994/summary\\_intro/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/1994/summary_intro/index.htm)>.
3. U.S. Department of Health and Human Services. (2015). Health costs. Retrieved from: <<http://therealcost.betobaccofree.hhs.gov/costs/health-costs/index.html>>.
4. Teen Smoking. (2009). Social consequences of smoking. Retrieved from: <<http://www.teensmoking.us/content/social-consequences-of-smoking.html>>.

# Types of Tobacco and Nicotine Products

**All tobacco products contain the drug nicotine and can lead to addiction and harm.** Combustible tobacco products (i.e., tobacco that is lit or heated) top the list as the most dangerous. Tobacco smoke contains over 7,000 chemicals; more than 70 of these are known to cause cancer.<sup>1</sup>

## Cigarettes

Cigarettes are thin cylinders of finely cut tobacco and chemical additives rolled in paper. They are sold in packs of twenty. They may or may not have a filter on the end. All flavored cigarettes are banned in the U.S. except menthol. They are often one of the most expensive tobacco products.

## Cigars/little cigars/cigarillos/blunts

The only difference between a cigarette and a cigar is that a cigarette is wrapped in paper (often white in color) and a cigar is wrapped in whole or in part in tobacco leaf (often brown in color). A cigar can come in any size, from very large to as small as a cigarette. Cigars can be sold individually, in packs of twenty resembling cigarettes or any other quantity. Cigars are sold in hundreds of flavors such as grape, cherry, and peach. They are not taxed as highly as cigarettes and may be very inexpensive. One cigar can be purchased for as little as \$0.50.

While cigarette consumption has been declining among youth over the past several decades, cigar use is increasing due to low cost and flavors appealing to youth. Cigars are addictive, contain the same harmful and carcinogenic ingredients as cigarettes and result in the same adverse health outcomes.



## Hookah/water pipe

Similar to cigars, hookah use is on the rise. Cheap prices and youth-appealing flavors are a major contributor to the rise in hookah smoking. Hookahs are a type of pipe that are often smoked socially among young people. Hookahs have a bowl where sticky, flavored tobacco (often called shisha) is heated by burning coals that are placed in a larger bowl directly beneath the tobacco bowl or via coals placed on top of the tobacco bowl. The user inhales the tobacco smoke through a mouthpiece, which is connected to a hose. The tobacco smoke is then pulled through the pipe stem and through the vase or base chamber, which is filled with water. The water cools the tobacco smoke before it is inhaled by the user. There are many misperceptions about the harms of hookah. Hookah smoke contains the same harmful carcinogens as cigarette smoke and can addict users. During a one-hour hookah smoking session, users typically take 200 puffs (compared to only 10-20 puffs for a cigarette), the equivalent of smoking a pack of cigarettes.





## Smokeless tobacco

**Smokeless tobacco products are not a safe alternative to cigarette smoking.** Smokeless tobacco contains nicotine and cancer-causing chemicals.



### Chew/dip

Chew is loose leaf or 'plugs' of tobacco placed between the lower gum and cheek. The nicotine and other chemicals are absorbed through the lining of the mouth. The user has to spit out the brown saliva that accumulates during use. Chew tobacco is often sold in circular cans and can come in flavors such as green apple.

### Snus

Snus is sold in round or oblong shaped cans. Each can contains several small teabag-like pouches filled with loose tobacco. Users place a snus pouch in their mouth between the gum and cheek, and the chemicals and nicotine are absorbed through the lining of the mouth. Unlike chew tobacco, most snus users place the pouches next to their upper gums, instead of lower gums. There are no saliva glands in the upper gums and this eliminates the need to regularly spit, as seen with chew. Because of this and the small size of the pouches, snus use is very discrete and it is difficult to tell if a young person is "snusing." Snus use carries the same health risks as all smokeless tobacco products.



### Dissolvable products

These are available as orbs or pellets (resembling candy), sticks (resembling toothpicks), or strips (resembling breath strips). All dissolvable products contain nicotine and they are chewed or sucked on until they dissolve in the mouth and the juices are swallowed. They are sold in flavors such as mint. These products are relatively new and little research has been conducted on them. Because of their candy-like appearance, they may be especially targeted toward youth.

## Electronic nicotine delivery systems/e-cigarettes/mods/vape pens/hookah pens



### History

Electronic nicotine delivery systems (ENDS) are composed of a battery-operated heating element, a cartridge, chamber or tank that contains the nicotine or other chemicals, and an atomizer (sometimes called a cartomizer), which when heated, converts the contents of the cartridge into an aerosol (usually referred to as a "vapor") which is then inhaled by the user. ENDS may look like a cigarette or cigar or look like everyday items such as pens and USB memory sticks.<sup>2</sup> Users (called "vapers") can choose from several nicotine strengths and thousands of flavorings.<sup>3</sup>

The first electronic cigarette was patented in 2004 and the popularity of these devices, world-wide and in the United States, has increased dramatically ever since.<sup>4</sup> Most brands are marketed as a tobacco-free alternative to conventional cigarettes that can be used in nonsmoking areas. The FDA does not currently allow e-cigarettes to be marketed for smoking cessation.

### Use by adolescents

Although the legal age to purchase ENDS products is 21, a recent report from the Centers for Disease Control and Prevention (CDC) found that more than a quarter of a million youth who had never smoked a



cigarette had used an ENDS in 2013.<sup>5</sup> This is a threefold increase from 2011. Tim McAfee, Director of the CDC's Office on Smoking and Health said,

*"We are very concerned about nicotine use among our youth, regardless of whether it comes from conventional cigarettes, e-cigarettes, or other tobacco products."<sup>5</sup>*



Research finds that youth ENDS users are 6 times more likely to initiate cigarette use, compared to non-ENDS users.<sup>5</sup>

In addition, because these products are so new, many school and community smokefree policies do not currently prohibit their use indoors. School district policies should be strengthened to include ENDS products (See page 44).

### Secondhand aerosol

Instead of referring to the smoke emitted from ENDS as a "vapor" (a term used by the tobacco industry), researchers have more accurately identified this as a chemical aerosol. Secondhand aerosol contains nicotine, ultrafine particles, and low levels of toxins that are known to cause cancer.<sup>6</sup> Secondhand aerosol exposure causes eye, throat, and airway irritation, damages lung tissues and may exacerbate or lead to respiratory illnesses such as asthma.<sup>6</sup>

### Potential risks

There is accumulating evidence that e-cigarettes lead to detrimental consequences, outweighing any benefits to users of such devices.<sup>1</sup> For example, over 1.3 million adolescents are using e-cigarettes frequently with more than 730,000 using on a daily basis - strong evidence of nicotine addiction.<sup>5</sup>

The U.S. Preventive Services Taskforce states there is not sufficient evidence to declare e-cigarettes are effective as a smoking cessation device.<sup>1</sup> In fact, as e-cigarette products are growing in popularity among adolescents, there is a growing concern that e-cigarettes may produce a new generation dependent on nicotine and tobacco.<sup>2,4</sup> Research finds young e-cigarette users are four times more likely to try smoking cigarettes and three times more likely to already be using cigarettes, compared to non-e-cigarette users.<sup>5</sup>

In 2016 the FDA gained the authority to regulate e-cigarette and required that these products be subjected to agency review, as well as other regulations.<sup>3</sup> However, the FDA continues to not fully exercise its ability to control and regulate e-cigarette products.<sup>3</sup> By not exercising their complete authority, there are currently no established standards for tobacco products to make them less addicting (e.g., reducing nicotine content) and some products entered the market without undergoing a review process (e.g., JUUL).<sup>3</sup> With a rise in adolescent e-cigarette use, it is important that the FDA fully exercise their authority to ensure the safety of such devices and to minimize the risk of vaping serving as a gateway to other tobacco product use among adolescents.<sup>3</sup>

#### References

1. Soneji, S.S., Sung, H-Y, Primack, B.A., Pierce, J.P., Sargent, J.D. (2018). Quantifying population-level health benefits and harms of e-cigarette use in the United States. PLOS ONE 13(3): e0193328.
2. U.S. Food and Drug Administration. (2018). 2018 NYTS Data: A Startling Rise in Youth E-cigarette Use. Retrieved from: <<https://www.fda.gov/tobacco-products/youth-and-tobacco/2018-nyts-data-startling-rise-youth-e-cigarette-use>>.
3. Campaign for Tobacco Free Kids. (2018). FDA Authority Over Tobacco. Retrieved from: <<https://www.tobaccofreekids.org/what-we-do/us/fda>>.
4. Campaign for Tobacco Free Kids. (2019). Global Issues Electronic Cigarettes. Retrieved from: <<https://www.tobaccofreekids.org/what-we-do/global/electronic-cigarettes>>.
5. Campaign for Tobacco Free Kids. (2020). Electronic Cigarettes and Youth. Retrieved from: <<https://www.tobaccofreekids.org/assets/factsheets/0382.pdf>>.
6. Americans for Nonsmokers' Rights. (2015). Electronic smoking devices and secondhand aerosol. Retrieved from: <<http://www.no-smoke.org/pdf/ecigarette-secondhand-aerosol.pdf>>.
7. U.S. Food and Drug Administration. (2014). Electronic cigarettees (e-cigarettes). Retrieved from: <<http://www.fda.gov/newsevents/publichealthfocus/ucm172906.htm>>.
8. Legacy Foundation. (2014). E-cigarette policy: The FDA should promptly exercise regulatory authority over e-cigarettes. Retrieved from: <[http://www.legacyforhealth.org/content/download/3962/56088/version/1/file/LEG-Policy\\_Statement-ECigarette-JAN2014.pdf](http://www.legacyforhealth.org/content/download/3962/56088/version/1/file/LEG-Policy_Statement-ECigarette-JAN2014.pdf)>.

## JUUL

In appearance, JUUL resembles a USB flash drive, and is in fact charged using a USB port. JUUL first launched in 2015 and is marketed heavily on social media sites. In a 2018 study, youth users reported getting JUUL from social sources (72.2%), vape shops (16.5%), gas stations (9.8%), and the internet (5.7%).<sup>1</sup> As of March 2020, JUUL represented 64% of the dollar share of the e-cigarette retail market.<sup>2</sup> A recent study found JUUL was the preferred brand by 59.1% of youth e-cigarette users<sup>2</sup>, and 48% of high school staff reported that they had observed or heard of students using JUUL in the school bathroom.<sup>3</sup> In addition, statistics on youth e-cigarette use may underreport the problem. A study from Truth Initiative found that a quarter of youth and young adult JUUL users don't refer to JUUL use as "e-cigarette use" or "vaping" but rather as "JUULing."<sup>3</sup>



A JUUL device costs about \$35 and a four pack of pods costs about \$20. JUUL pods come in tobacco and mint flavors. JUUL is high tech, discreet, and easy to hide, and contains nicotine salts which users describe as delivering a faster, smoother "hit." Every JUUL pod contains nicotine. The 5% strength of a JUUL pod is equivalent to the nicotine in a pack of cigarettes. **Alarmingly, 63% of JUUL users don't know that the product always contains nicotine.**<sup>1</sup>

**For more information about e-cigarettes & JUUL, visit:**

- Campaign for Tobacco Free Kids: <https://www.tobaccofreekids.org/assets/factsheets/0394.pdf>
- Truth Initiative: <https://truthinitiative.org/news/what-is-juul>
- CDC: [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/index.htm](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm)

## Puff Bar

Puff Bar is an e-cigarette device popular among adolescents. Similar to the JUUL in appearances, the Puff Bar is also structured like a USB flash drive, making it small enough to fit in your pocket.<sup>4</sup> However, unlike JUUL devices which the user keeps (only replacing the nicotine pods), Puff Bar is disposable. In other words, once the e-juice is used up, the device cannot be charged or filled up again.<sup>4</sup> Disposable e-cigarettes are sold in dozens of youth-appealing flavors such as sour apple, lemonade, menthol, and O.M.G. (orange, mango, guava).<sup>4</sup> These Flavors, along with its low cost, have contributed greatly to the rising popularity of Puff Bars among adolescents.<sup>5</sup> Due to its classification as a disposable product, the Puff Bar is subject to fewer FDA regulations. This device supplies almost 300 "puffs," which can equate to as much nicotine as found in two to three packs of cigarettes.<sup>6</sup> Currently, the Puff Bar has suspended all U.S. website sales as requested by the FDA for not having premarket authorization and purportedly targeting children.<sup>7</sup> However, it can still be purchased from other online sources.

### References

1. Liu, S. T., Snyder, K., Tynan, M. A., & Wang, T. W. (2019). Youth Access to Tobacco Products in the United States, 2016-2018. *Tobacco Regulatory Science*, 5(6), 491-501.
2. Cullen, K. A., Gentzke, A. S., Sawdey, M. D., Chang, J. T., Anic, G. M., Wang, T. W., ... & King, B. A. (2019). E-cigarette use among youth in the United States, 2019. *JAMA*, 322(21), 2095-2103.
3. Truth Initiative. (2019). How are schools responding to JUUL and the youth e-cigarette epidemic? Retrieved from: <<https://truthinitiative.org/research-resources/emerging-tobacco-products/how-are-schools-responding-juul-and-youth-e-cigarette>>
4. Truth Initiative. (2020). What are Puff Bars? Retrieved from: <<https://truthinitiative.org/research-resources/emerging-tobacco-products/what-are-puff-bars>>
5. Wolfe, E. (2020). Controversial E-Cigarette Company Puff Bar Says It's Suspending U.S. Sales. Retrieved from: <<https://www.fairwarning.org/2020/07/e-cigarette-company-suspends-sales/>>
6. Aubrey, A. (2020). Parents: Teens Are Still Vaping, Despite Flavor Ban. Here's What They're Using. Retrieved from: <<https://www.npr.org/sections/health-shots/2020/02/17/805972087/teens-are-still-vaping-flavors-thanks-to-new-disposable-vape-pens>>
7. U.S. Food and Drug Administration. (2020). FDA Notifies Companies, Including Puff Bar, to Remove Flavored Disposable E-Cigarettes and Youth-Appealing E-Liquids from Market for Not Having Required Authorization. Retrieved from: <<https://www.fda.gov/news-events/press-announcements/fda-notifies-companies-including-puff-bar-remove-flavored-disposable-e-cigarettes-and-youth>>

# Tobacco Industry Marketing and Youth

In 2006, U.S. District Judge Gladys Kessler issued a final judgment in the U.S. government's lawsuit against the major tobacco companies. This lawsuit convicted the tobacco companies as racketeers for defrauding the American people by lying for decades about the health risks of smoking and their marketing to children.<sup>1</sup>

Regarding the tobacco industry's targeting of youth, Judge Kessler said:

*"From the 1950s to the present, different defendants, at different times and using different methods, have intentionally marketed to young people under the age of twenty-one in order to recruit 'replacement' smokers to ensure the economic future of the tobacco industry."*  
(Final Opinion, United States v. Philip Morris)<sup>2</sup>



Tobacco industry CEO's testifying that "Nicotine is not addictive." Hearing on the Regulation of Tobacco Products House Committee on Energy and Commerce Subcommittee on Health and the Environment - April 14, 1994<sup>3</sup>

To maintain profits, tobacco companies must replace customers who quit tobacco or die from tobacco-related diseases with new smokers. "Replacement smokers" are often youth who are attracted to tobacco products through expensive marketing campaigns that use images that are highly appealing to young people.<sup>4</sup>

The tobacco industry spends \$9.6 billion dollars every year (\$26 million dollars per day) to promote their addictive and deadly products, of which \$359.8 million is spent in the state of Missouri.<sup>5</sup> Many of their marketing efforts are aimed at youth.<sup>6-7</sup>

While tobacco companies may claim that they have stopped targeting youth with their marketing, evidence shows that they continue to advertise in ways which target vulnerable, underage populations. In fact, the National Youth Tobacco Survey found that 85.2% of middle school and 87.3% of high school students were exposed to tobacco ads in stores, in magazines or on the internet in 2019.<sup>8</sup> Internal tobacco industry documents, revealed as a result of lawsuits, show that the industry considers youth as young as 13 to be a key market. Here are a few industry quotes about marketing to kids.

**Philip Morris: “Today’s teenager is tomorrow’s potential regular customer, and the overwhelming majority of smokers begin to smoke while still in their teens...The smoking patterns of teenagers are particularly important to Philip Morris.”<sup>8</sup>**

**Lorillard Tobacco: “The base of our business is the high school student.”<sup>9</sup>**

**U.S. Tobacco: “Cherry Skoal is for somebody who likes the taste of candy, if you know what I’m saying.”<sup>10</sup>**

**R.J. Reynolds: “We reserve the right to smoke for the young, the poor, the black and stupid.”<sup>11</sup>**

Moreover, despite the ban on flavored cigarettes, the tobacco industry continues to lure kids into nicotine with a wide assortment of sweet-flavored cigars, smokeless tobacco products, hookah tobacco and electronic nicotine delivery systems (ENDS; aka e-cigarettes). Flavors range from fruit punch to watermelon to chocolate. In 2018 alone, an estimated 89% of youth used flavored hookah tobacco, 85.3% used a flavored e-cigarette, 81% used flavored smokeless tobacco, 80,4% used a flavored snus pouch, 71.7% used flavored cigars, and 59.5% used flavored cigarettes.<sup>14</sup>

**It is important to note that e-cigarette brands are owned in part by Big Tobacco companies. For example, Altria (maker of Marlboro cigarettes) holds a significant stake in JUUL.**

According to one retired Missouri school nurse, “Teens listen when they realize they are being targeted.” This information can be used to engage student tobacco users in dialogue about how the tobacco industry preys on young people and vulnerable groups, and this may change their feelings about tobacco use.

#### References

1. Campaign for Tobacco Free Kids. (2010). Big tobacco guilty as charged. Retrieved from: <[http://www.tobaccofreekids.org/what\\_we\\_do/industry\\_watch/doj\\_lawsuit/](http://www.tobaccofreekids.org/what_we_do/industry_watch/doj_lawsuit/)>.
2. Campaign for Tobacco Free Kids. (2015). U.S. district judge Gladys Kessler’s final opinion: Summary of findings against the tobacco industry. Retrieved from: <[https://www.tobaccofreekids.org/content/what\\_we\\_do/industry\\_watch/doj/FinalOpinionSummary.pdf](https://www.tobaccofreekids.org/content/what_we_do/industry_watch/doj/FinalOpinionSummary.pdf)>
3. University of California San Francisco. (2013). Tobacco CEO’s statement to Congress 1994. Retrieved from: <<http://senate.ucsf.edu/tobacco/executives1994congress.html>>.
4. Campaign for Tobacco Free Kids. (2014). Maybe you’re the target. Retrieved from: <[http://global.tobaccofreekids.org/content/what\\_we\\_do/industry\\_watch/yourethetarget\\_report.pdf](http://global.tobaccofreekids.org/content/what_we_do/industry_watch/yourethetarget_report.pdf)>.
5. Campaign for Tobacco Free Kids. (2015). The toll of tobacco in Missouri. Retrieved from: <[http://www.tobaccofreekids.org/facts\\_issues/toll\\_us/missouri](http://www.tobaccofreekids.org/facts_issues/toll_us/missouri)>.
6. U.S. Federal Trade Commission. (2015). Cigarette report for 2012. Retrieved from: <<https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-cigarette-report-2012/150327-2012cigaretterpt.pdf>>.
7. U.S. Federal Trade Commission. (2015). Smokeless tobacco report for 2012. Retrieved from: <<https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-smokeless-tobacco-report-2012/150327-2012smokelesstobaccorpt.pdf>>.
8. Wang TW, Gentzke AS, Creamer MR, et al. Tobacco Product Use and Associated Factors Among Middle and High School Students – United States, 2019. MMWR Surveill Summ 2019;68(No. SS-12):1-22. DOI: <<http://dx.doi.org/10.15585/mmwr.ss6812a1>>
9. Philip Morris. (1981). Special report, ‘Young smokers: Prevalence, trends, implications, and related demographic trends.’ Bates No. 1000390803.
10. Lorillard. (1978). Memo from executive TL Achey to Lorillard president Curtis Judge re Newport brand. Bates No. TINY003062.
11. R.J. Reynolds executive’s reply when asked why he didn’t smoke according to Dave Goerlitz, lead Winston model for seven years for R.J. Reynolds. Giovanni, J, “Come to Cancer Country; USA; Focus,” The Times of London, August 2, 1992.
12. Campaign for Tobacco Free Kids. (2008). Tobacco advertising and youth: Marketing tactics. Retrieved from: <[http://global.tobaccofreekids.org/files/pdfs/en/APS\\_youth\\_tactics\\_en.pdf](http://global.tobaccofreekids.org/files/pdfs/en/APS_youth_tactics_en.pdf)>.
13. Corey, C. G., Ambrose, B. K., Apelberg, B. J., and King, B. A. (2015). Flavored tobacco product use among middle and high school students—United States, 2014. Morbidity and Mortality Weekly Report, 64(38), 1066-1070.
14. ruth Initiative. (2018). Flavored tobacco use among youth and young adults. Retrieved from: <<https://truthinitiative.org/research-resources/emerging-tobacco-products/flavored-tobacco-use-among-youth-and-young-adults>>

# Tobacco and Nicotine Use Initiation

Every day, around 1,600 U.S. youth under age 18 try their first cigarette, and an additional 200 youth become new daily smokers.<sup>1</sup>

Most kids try smoking for the first time between sixth and seventh grade (ages 11-13).<sup>2</sup>

Nearly one in ten youth has smoked at least one whole cigarette before age 13.<sup>3</sup>

**By the 10th grade, one out of every five students has tried smoking, and by the 12th grade, one out of three has tried smoking.**<sup>4</sup>

More than one-third of all youth who ever try smoking a cigarette will become daily smokers before they leave high school.<sup>5</sup>

**Research finds that 90% of adult smokers began smoking before age 18, and 2 out of 3 adult smokers report having become daily smokers before age 19.**<sup>6</sup>

In 2019 the prevalence of self-reported current e-cigarette use was 27.5% among high school students and 10.5% among middle school students.<sup>8</sup>

**E-cigarette use among youth is associated with over four times the odds of ever trying cigarettes and almost three times the odds of currently using cigarettes.**<sup>7</sup> There is growing concern that initiation of these products is another pathway to nicotine addiction.

## References

1. Centers for Disease Control and Prevention. (2020). Youth and Tobacco Use. Retrieved from: <[http://www.monitoringthefuture.org/data/14data/14tobtbl1.pdf](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm#:~:text=Tobacco%20product%20use%20is%20started%20and%20established%20primarily%20during%20adolescence.&text=Nearly%209%20out%20of%2010,try%20smoking%20by%20age%2026.&text=Each%20day%20in%20the%20U.S.,youth%20start%20smoking%20every%20day.></a>>.</li><li>2. Johnston, L., O'Malley, P. M., Bachman, J. G., and Schulenberg, J. E. (2013). Monitoring the future national survey results on drug use, 1975–2011. Institute for Social Research, the University of Michigan: Rockville, Michigan, USA, 1.</li><li>3. Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Kawkins, J., Harris, W. A., ... and Zaza, S. (2014). Youth risk behavior surveillance—United States, 2013. Morbidity and Mortality Weekly Report, 63(Suppl 4): 1-168.</li><li>4. University of Michigan. (2014). Trends in prevalence of use of cigarettes in grades 8, 10, and 12. Retrieved from: <<a href=)>.
5. Centers for Disease Control and Prevention. (1998). Selected cigarette smoking initiation and quitting behaviors among high school students – United States, 1997. Morbidity and Mortality Weekly Report, 47(10): 386-389.
6. U.S. Department of Health and Human Services. (1994). Youth and tobacco: Preventing tobacco use among young people. A Report of the Surgeon General. Retrieved from: <[http://profiles.nlm.nih.gov/NN/B/C/F/T/\\_/nnbcft.pdf](http://profiles.nlm.nih.gov/NN/B/C/F/T/_/nnbcft.pdf)>.
7. Berry, K. M., Fetterman, J. L., Benjamin, E. J., Bhatnagar, A., Barrington-Trimis, J. L., Leventhal, A. M., & Stokes, A. (2019). Association of electronic cigarette use with subsequent initiation of tobacco cigarettes in US youths. JAMA Network Open, 2(2), e187794-e187794.
8. Cullen, K. A., Gentzke, A. S., Sawdey, M. D., Chang, J. T., Anic, G. M., Wang, T. W., ... & King, B. A. (2019). E-cigarette use among youth in the United States, 2019. JAMA, 322(21), 2095-2103.



# Missouri: By the Numbers

Every year 1,900 Missouri kids under the age of 18 become new daily smokers<sup>1</sup>. The Missouri high school smoking rate is 6.5% (representing 20,700 youth smokers), which is higher than the national average of 5.8%<sup>2</sup>.

Use of Electronic Nicotine Delivery Systems (ENDS; aka e-cigarettes) is increasing among Missouri high school students (20.7%), as it is nationwide. Among Missouri high school students, 9.4% are frequently using ENDS products with 6.9% reporting daily use.<sup>2</sup>

Smokeless tobacco use in Missouri is also high. Among high school males in Missouri, smokeless tobacco use is 5.5%.

Figure 1. Current (Past 30 Days) Cigarette Smoking<sup>1-2</sup>

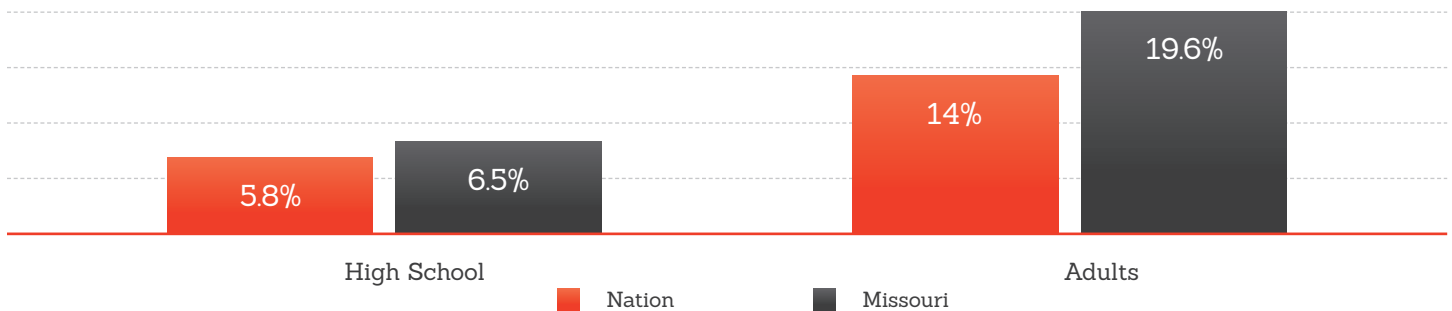
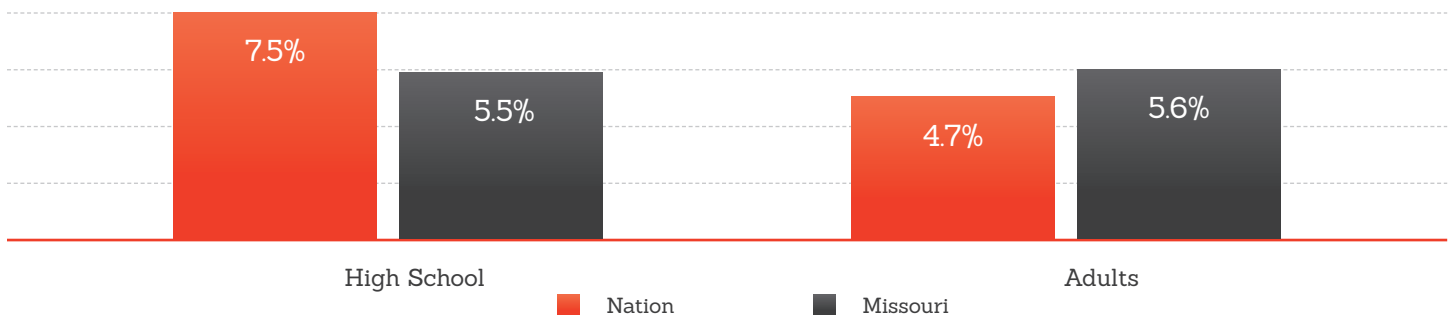


Figure 2. Current (Past 30 Day) Smokeless Tobacco Use Among Males<sup>2-3</sup>



## References

1. Campaign for Tobacco Free Kids. (2020). The toll of tobacco in Missouri. Retrieved from <<https://www.tobaccofreekids.org/problem/toll-us/missouri>>

2. Missouri Department of Health and Senior Services. (2019). 2019 Youth Risk Behavior Survey Results.

3. Jamal, A., Gentzke, A., Hu, S. S., Cullen, K. A., Apelberg, B. J., Homa, D. M., & King, B. A. (2017). Tobacco use among middle and high school students—United States, 2011–2016. *Morbidity and Mortality Weekly Report*, 66(23), 597.

## Figure 1 References

Centers for Disease Control and Prevention. (2020). Youth and Tobacco Use. Retrieved from <[https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/youth\\_data/tobacco\\_use/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm)>

2019 Youth Risk Behavior Survey Results

Campaign for Tobacco Free Kids. (2020). The toll of tobacco in Missouri. Retrieved from <<https://www.tobaccofreekids.org/problem/toll-us/missouri>>

Figure 3. Current (Past 30 Days) Electronic Nicotine Delivery System Use<sup>2,3</sup>

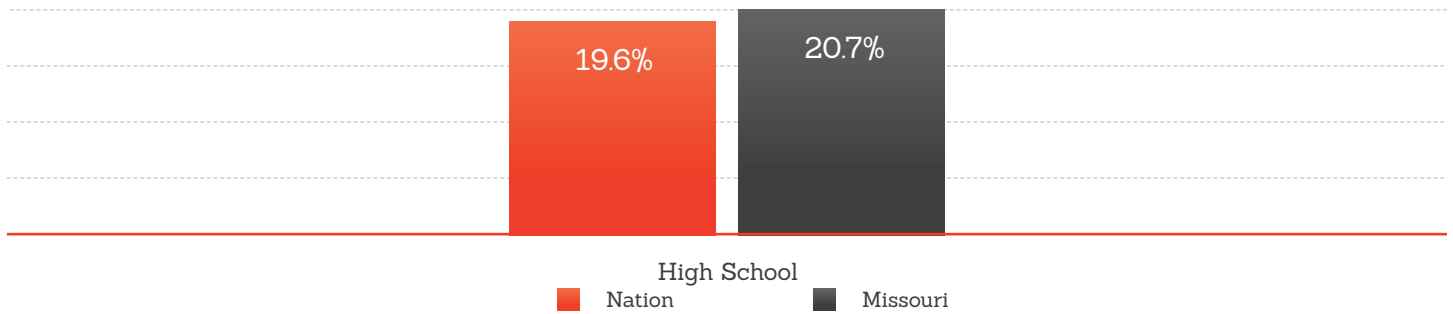


Figure 4. Ever Use of an Electronic Nicotine Delivery System<sup>2,4</sup>

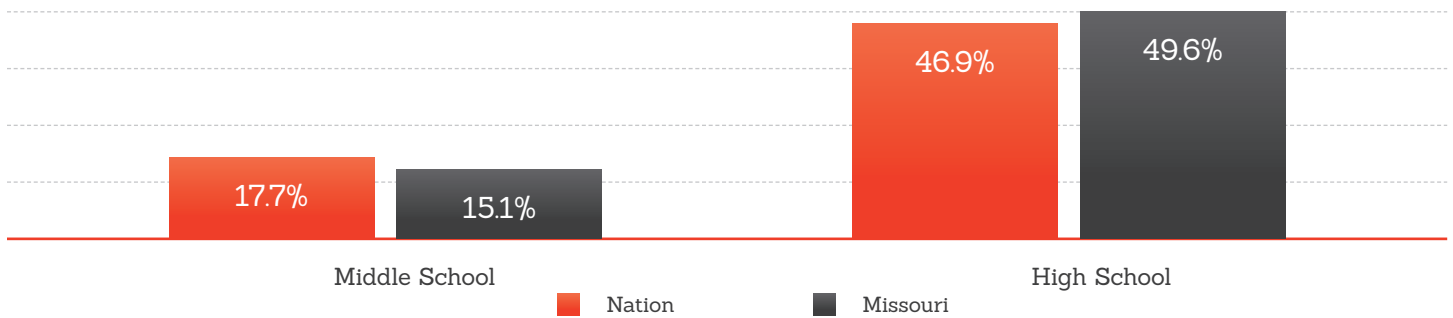


Figure 2 References

Centers for Disease Control and Prevention. (2020). Smokeless Tobacco Use in the United States. Retrieved from <[https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/smokeless/use\\_us/index.htm#adult-region](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/smokeless/use_us/index.htm#adult-region)>

Missouri Department of Health and Senior Services. (2019). 2019 Youth Risk Behavior Survey Results.

Truth Initiative. (2020). Tobacco use in Missouri 2020. Retrieved from <<https://truthinitiative.org/research-resources/smoking-region/tobacco-use-missouri-2020>>

Figure 3 References

Wang, T. W., Neff, L. J., Park-Lee, E., Ren, C., Cullen, K. A., & King, B. A. (2020). E-cigarette use among middle and high school students—United States, 2020. *Morbidity and Mortality Weekly Report*, 69(37), 1310.

Campaign for Tobacco Free Kids. (2020). The toll of tobacco in Missouri. Retrieved from <<https://www.tobaccofreekids.org/problem/toll-us/missouri>>

Missouri Department of Health and Senior Services. (2019). 2019 Youth Risk Behavior Survey Results.

Figure 4 References

Missouri Department of Health and Senior Services. (2019). 2019 Youth Risk Behavior Survey Results.

Wang, T. W., Neff, L. J., Park-Lee, E., Ren, C., Cullen, K. A., & King, B. A. (2020). E-cigarette use among middle and high school students—United States, 2020. *Morbidity and Mortality Weekly Report*, 69(37), 1310.

# Missouri is Falling Behind

When it comes to tobacco control efforts, Missouri is falling behind. The problem is three-fold:

## **First, the state does not fund any youth tobacco prevention programming.**

There is a widely held misconception that the state dedicates a portion of the funds from the Master Settlement Agreement (MSA) to this cause – as was the intention of the MSA. Sadly, the Missouri State Legislature does not use the MSA funding for this purpose. Any current prevention efforts taking place statewide in Missouri are the result of local, federal, and non-profit grant funding. This type of prevention funding is intermittent and falls far short of the CDC's best practices state spending recommendation. In Best Practices for Comprehensive Tobacco Control Programs, the CDC recommended that Missouri spend \$72,900,000 on tobacco control. In 2020 the Missouri tobacco control program has \$2,195,789 to spend, only 3% of the recommendation. Federal funds made up 92% of that total, with state general revenue contributing \$171,582.<sup>1</sup>



To learn more about the Master Settlement Agreement, visit:

- Tobacco Control Legal Consortium, The Master Settlement Agreement, An Overview  
<http://www.publichealthlawcenter.org/sites/default/files/resources/tclc-fs-msa-overview-2015.pdf>
- Campaign for Tobacco Free Kids, Broken Promises to Our Children  
<http://www.tobaccofreekids.org/microsites/statereport2015/>

**The second challenge in Missouri is the lack of a comprehensive smokefree indoor air law, which would prohibit indoor smoking in all workplaces, including bars and restaurants.** Currently, Missouri is one of twenty-three states without a comprehensive smokefree indoor air law.<sup>2</sup> The main purpose of smokefree laws and policies is to protect nonsmokers from secondhand smoke; however, research shows that these laws have the added benefit of increasing overall cessation<sup>3</sup> and reducing smoking initiation among youth.<sup>4</sup>

**Finally, Missouri ranks last with its tobacco tax, at only \$0.17 per pack of cigarettes, compared to the national average of \$1.88.**<sup>5</sup> Many economic studies have documented that increases in the cigarette tax or price reduce adult and youth smoking.<sup>6</sup> For every 10% increase in the price of cigarettes, there is a 6-7% reduction in the number of youth who smoke.<sup>6</sup> Young people are especially sensitive to the price of tobacco products, and substantial tax increases are the most effective way to deter youth smoking. Having the lowest tobacco tax in the nation allows the rate of youth tobacco use in Missouri to remain high.

Taken together, the lack of youth prevention funding, the lack of a comprehensive statewide smokefree law, and the low tobacco tax are largely to blame for the high prevalence of adult and youth tobacco use in Missouri. In the 2021 State of Tobacco Control report, the American Lung Association gave Missouri a grade of "F" in four categories: tobacco prevention and cessation funding, smokefree air, tobacco taxes, and flavored tobacco products. Missouri also received a "D" grade in access to cessation services. <sup>1</sup> Because of these challenges at the state level, efforts must be made at the local level to reduce tobacco use.

## References

1. American Lung Association. (2020). Tobacco Prevention and Cessation Funding. Retrieved from <<https://www.lung.org/research/sotc/state-grades/missouri>>.
2. American Nonsmokers' Rights Foundation. (2019). Bridging the Gap: Status of Smokefree Air in the United States. Retrieved from <<https://no-smoke.org/wp-content/uploads/pdf/BridgingtheGap-ExecutiveSummary.pdf>>.
3. U.S. Department of Health and Human Services. (2006). The health consequences of involuntary exposure to tobacco smoke: A report of the Surgeon General. Retrieved from: <[http://www.ncbi.nlm.nih.gov/books/NBK44324/pdf/Bookshelf\\_NBK44324.pdf](http://www.ncbi.nlm.nih.gov/books/NBK44324/pdf/Bookshelf_NBK44324.pdf)>.
4. Siegel, M., Albers, A. B., Cheng, D. M., Hamilton, W. L., and Biener, L. (2008). Local restaurant smoking regulations and the adolescent smoking initiation process: Results of a multilevel contextual analysis among Massachusetts youth. Archives of Pediatrics and Adolescent Medicine, 162(5), 477-483.
5. Campaign for Tobacco Free Kids. (2020). State Cigarette Excise Tax Rates and Rankings. Retrieved from: <<https://www.tobaccofreekids.org/assets/factsheets/0097.pdf>>.
6. Campaign for Tobacco Free Kids. (2015). Raising cigarette taxes reduces smoking, especially among youth (and the cigarette companies know it). Retrieved from: <<http://www.tobaccofreekids.org/research/factsheets/pdf/0146.pdf>>.

# Intention to Quit

**Out of 3.3 million youth, 58% of those currently using tobacco were thinking about quitting.**<sup>1</sup> Among adolescents who vape, 50% felt a desire to quit within the next month, while 27% reported a desire to quit within six months to a year.<sup>2</sup> **About one in four adolescents who vape have made a serious quit attempt.**<sup>2</sup> In Missouri, 49.6% of middle school and 47.8% of high school students have tried to quit smoking in the past year.<sup>5</sup> However, few (8.9%) Missouri high school students who currently smoke or use tobacco had participated in a program to help them quit, and only 4.1% of these students had programs at school to help them quit.<sup>5</sup>

Quit attempts by young people are often unplanned and unassisted<sup>5</sup>, even though tobacco cessation programs double an adolescent's chances of successfully quitting.<sup>6-7</sup> **Adolescent smoking cessation programs, compared with control conditions, increase the probability of quitting by approximately 46%.**<sup>6,8</sup>

Regrettably, a national focus group of adolescents found that many young smokers did not consider tobacco use urgent or intense enough for professional help.<sup>9</sup> Perceptions of cessation programs were nonexistent or negative. Unfortunately, without assistance, three out of four will continue smoking into adulthood.<sup>3</sup> It is critical to educate adolescents about what cessation programming is, what it is not, why it is needed, how it can help, and where it is offered.

To increase utilization, smoking cessation programs should be made available to adolescents in a variety of settings.<sup>10</sup> In addition, cessation programs need to address other tobacco products in addition to cigarettes.<sup>11</sup> Similar to older and adolescent daily smokers, young adolescents and non-daily smokers make regular cessation attempts and should be included in cessation programs along with older adolescents and adolescent daily smokers.<sup>12</sup>



## References

1. Wang, T. W., Gentzke, A. S., Creamer, M. R., Cullen, K. A., Holder-Hayes, E., Sawdey, M. D., ... & Jamal, A. (2019). Tobacco product use and associated factors among middle and high school students—United States, 2019. *MMWR Surveillance Summaries*, 68(12), 1.
2. Smith, T. T., Nahhas, G. J., Carpenter, M. J., Squeglia, L. M., Diaz, V. A., Leventhal, A. M., & Dahne, J. (2020). Intention to Quit Vaping Among United States Adolescents. *JAMA Pediatrics*.
3. Centers for Disease Control and Prevention. (2014). Youth risk behavior surveillance – United States, 2013. *Morbidity and Mortality Weekly Report*, 63(4).
4. Hollis, J. F., Polen, M. R., Lichtenstein, E., and Whitlock, E. P. (2003). Tobacco use patterns and attitudes among teens being seen for routine primary care. *American Journal of Health Promotion*, 17(4): 231-239.
5. Missouri Department of Health and Senior Services. (2017). Missouri youth and tobacco, 2007-2017: Results from the Youth Tobacco Survey and Youth Risk Behavior Survey.
6. Centers for Disease Control and Prevention. (2006). Use of cessation methods among smokers aged 16-24 years—United States, 2003. *Morbidity and Mortality Weekly Report*, 55(50): 1351.
7. Sussman, S., Sun, P., and Dent, C. W. (2006). A meta-analysis of teen cigarette smoking cessation. *Health Psychology*, 25(5): 549.
8. McCuller, W. J., Sussman, S., Wapner, M., Dent, C., and Weiss, D. J. (2006). Motivation to quit as a mediator of tobacco cessation among at-risk youth. *Addictive Behaviors*, 31(5): 880-888.
9. Sussman, S. (2002). Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tobacco Induced Diseases*, 1(1): 35-81.
10. Price, J. H., Jordan, T. R., and Dake, J. A. (2007). Pediatricians' use of the 5 A's and nicotine replacement therapy with adolescent smokers. *Journal of Community Health*, 32(2): 85-101.
11. Donovan, K. A. (2000). Smoking cessation programs for adolescents. *The Journal of School Nursing*, 16(4): 36-43.
12. Backinger, C. L., Fagan, P., Matthews, E., and Grana, R. (2003). Adolescent and young adult tobacco prevention and cessation: current status and future directions. *Tobacco Control*, 12(suppl 4): iv46-iv53.
13. Bancej, C., O'Loughlin, J., Platt, R. W., Paradis, G., and Gervais, A. (2007). Smoking cessation attempts among adolescent smokers: a systematic review of prevalence studies. *Tobacco Control*, 16(6): e8-e8.

# The Need for Cessation in Schools



Schools are institutions of learning and well-being. Adolescents spend one third of their waking time in school, and 95% of children in the United States attend school.<sup>1</sup> **While many school districts have tobacco-free policies, these policies are incomplete and fall short of the “gold standard” if cessation services are not included.**<sup>2</sup>

Schools are the optimal setting to reach large populations of youth with health-related interventions, including tobacco cessation. Offering services in schools helps eliminate barriers to cessation for youth, such as transportation, cost, and ability to provide follow-up. **In addition, the availability of cessation provides a treatment alternative to the usual disciplinary action for youth who violate school tobacco policies.** School nurses, in particular, are well situated to provide cessation services and have the skills and credibility necessary to do so.<sup>3</sup> Almost all school districts in Missouri have at least one school nurse, and in most cases, one nurse per school. Nurses have a unique

opportunity to screen for tobacco use during routine health screenings and office visits. Youth who smoke have more illnesses and more severe illness than youth who do not smoke and therefore might be more likely to visit the school nurse.<sup>4</sup>

**Cessation services should be incorporated into coordinated school health programs which seek to integrate health-promoting practices into the school-setting.**<sup>5</sup> Missouri school nurses prioritize asthma care and oral health, both of which can be improved by tobacco-free school policies and the provision of cessation services. In fact, during the 2014-2015 school year there were 80,443 Missouri students who had an asthma diagnosis.<sup>6</sup> **In alignment with the Centers for Disease Control and Prevention’s *Whole School, Whole Community, Whole Child* model, tobacco cessation is a critical piece of the Health Services component.**<sup>5</sup> School nurses, teachers, counselors and administrators all have a role to play in improving the health of young people and can utilize this toolkit to help adolescents quit tobacco.

Many of the tools provided in the ACES toolkit focus on helping young people quit tobacco through behavioral interventions (e.g., motivational interviewing, completing the quit plan) and would not be considered a medical treatment requiring permission from parents and guardians. By focusing on changing behaviors around tobacco use, school nurses and professionals are able to provide effective and evidence-based assistance to student tobacco users, while respecting the young person’s need for confidentiality.

This toolkit was developed from evidence-based literature and best practices for adolescent tobacco cessation. It has been reviewed by experts in tobacco cessation and school nursing and is available to schools at no cost. It is designed to be used one-on-one with adolescents and does not require a group or classroom format. Trainings on adolescent tobacco cessation and the use of this toolkit are available at no cost. Schools can and should play a major role in helping young people live full and happy lives, free from nicotine addiction.

## References

1. US Department of Commerce. (2009). Historical statistics of United States colonial times to 1970; Current population reports, Series P-20, various years; and current population survey, October 1970 through 2007.
2. Barbero, C., Moreland-Russell, S., Bach, L. E., and Cyr, J. (2013). An evaluation of public school district tobacco policies in St. Louis County, Missouri. *Journal of School Health*, 83(8), 525-532. doi:10.1111/josh.12061.
3. Missouri Department of Health and Senior Services. (2014). Missouri school health profiles: 2014 key findings. Retrieved from: <[http://dese.mo.gov/sites/default/files/HPE\\_Missouri\\_2014\\_School\\_Health\\_Profiles\\_Report\\_0.pdf](http://dese.mo.gov/sites/default/files/HPE_Missouri_2014_School_Health_Profiles_Report_0.pdf)>.
4. Broussard, L. (2004). School Nursing: Not Just Band-Aids Any More!. *Journal for Specialists in Pediatric Nursing*, 9(3), 77-83.
5. Campaign for Tobacco Free Kids. (2015). Tobacco harm to kids. Retrieved from: <<http://www.tobaccofreekids.org/research/factsheets/pdf/0077.pdf>>.
6. Centers for Disease Control and Prevention. (2015). Whole school, whole community, whole child. Retrieved from: <<http://www.cdc.gov/healthyyouth/wssc/index.htm>>.
7. Missouri Department of Health and Human Services. (2015). Inventory of students with special health care needs. Retrieved from: <<http://health.mo.gov/living/families/schoolhealth/pdf/SHCNsurveyForm.pdf>>.



# Prevention vs. Cessation

Prevention and cessation are related, yet separate activities. While prevention focuses on preventing non-tobacco users from ever experimenting with or initiating regular tobacco use, cessation involves actively helping a current tobacco user quit. Both are needed in the school setting in order to reduce tobacco use among young people.

## Prevention

**Prevent non-tobacco users from ever experimenting with or initiating regular tobacco use**

### Examples:

- Anti-tobacco brochures and PSAs
- Social norms posters (i.e., 88% of students do not use tobacco)
- Peer-to-peer education programs
- Health class presentations on the harms of tobacco
- Red Ribbon Week
- DARE

## Cessation

**Actively help current tobacco users quit**

### Examples:

- Setting a quit date
- Talking to someone about quitting
- Making a quit plan
- Cutting back the number of cigarettes smoked each day
- Using nicotine replacement therapy patches or gum
- Using a medication to help stop smoking



# Section 2: Implementation

# The 5As Approach

Cessation interventions that take place through the provision of self-help materials, via a telephone Quitline, in a group setting and one-on-one have all been shown to be more effective than making an unassisted quit attempt.<sup>1</sup> **One-on-one cessation coaching is the most effective approach<sup>1</sup>, can be implemented on-the-spot, and is highly individualized - making it the best approach for working with adolescents in the school setting.**



Visit [cessationineveryschool.org](http://cessationineveryschool.org) to watch a school nurse implement the 5As Approach with an adolescent who uses tobacco.

The 5As are a brief, evidence-based tobacco cessation intervention that takes less than three minutes to complete.<sup>1</sup> **The American Academy of Pediatrics endorses the use of the 5As approach with adolescent tobacco users,<sup>2</sup> and studies have shown it to be effective with young people.<sup>3-4</sup>**

The 5As will help you determine a person's willingness to quit smoking. The first step is to **ask** if a young person uses tobacco. For example, a school nurse could ask all students who visit her office about their tobacco use or she could focus on asking students who present with coughs, respiratory illness, and those who smell of tobacco. If they confirm that they use tobacco, the next step is to **advise** them to quit and **assess** their willingness to make a quit attempt. If a young person is unwilling to quit, the nurse should utilize motivational interviewing techniques to increase the likelihood the young person will make a quit attempt in the future (see page 22). If the young person is willing to quit, the nurse should **assist** him or her in making a quit attempt by helping with setting a quit date and completing a quit plan (see page 23). The final step is to **arrange** for follow-up with that individual to provide support, encouragement and accountability during the quit attempt.

**Table 1. The “5As” model for treating tobacco use and dependence<sup>1</sup>**

<b>Ask</b>	<p>Ask every student about tobacco use at every visit. Identify tobacco users and document tobacco use.</p> <p>Example:</p> <ol style="list-style-type: none"> <li>1. “Do you use any tobacco products, even occasionally?”</li> </ol>
<b>Advise</b>	<p>Advise tobacco users to quit. In a clear, strong and personalized manner, urge every tobacco user to quit.</p> <p>Example:</p> <ol style="list-style-type: none"> <li>1. “I think it is important for you to quit now and I can help you. Nicotine is an addictive drug, and the longer you use tobacco the harder it will be to quit.”</li> </ol>
<b>Assess</b>	<p>Assess willingness to make a quit attempt.</p> <p>Example:</p> <ol style="list-style-type: none"> <li>1. “On a scale from 0 to 10, how motivated are you to quit?”</li> <li>2. “Have you ever tried to quit on your own?”</li> <li>3. “Do you want to quit within the next month?”</li> </ol>
<b>Assist</b>	<p><b>For persons who want to quit:</b> Assist the young person in making a quit attempt. Help him/her set a quit date, complete the quit plan (see page 23), identify coping strategies and provide one-on-one support throughout the quit attempt.</p> <p><b>For persons who are uninterested in quitting:</b> Implement motivational interviewing techniques to increase future quit attempts (see page 22).</p>
<b>Arrange</b>	<p>Arrange follow-up, especially on and following the quit date.</p> <p>Example:</p> <ol style="list-style-type: none"> <li>1. During follow-up visits, success should be congratulated. If the individual has slipped up, review and adapt the quit plan and encourage a new commitment to quitting.</li> </ol>

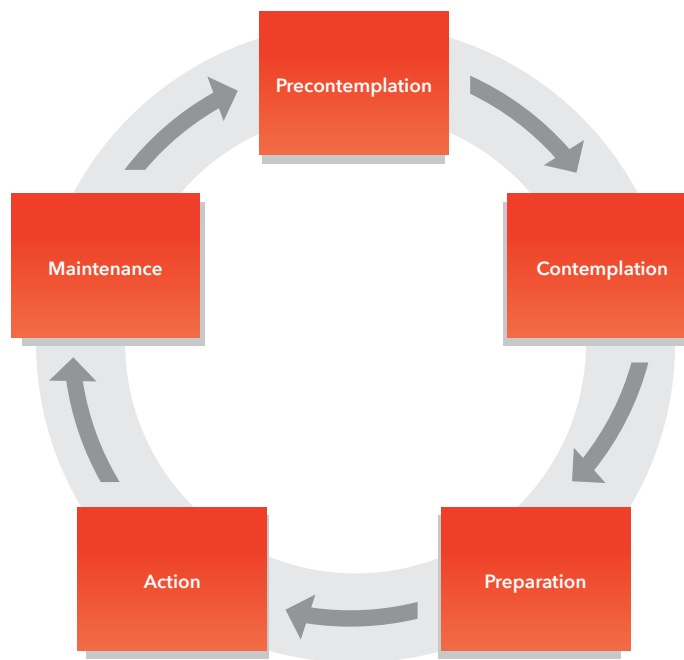
## References

1. Fiore, M., Jaen, C. R., Baker, T. B., Bailey, W. C., Benowitz, N. L., Curry, S. E. E. A., Dorfman, S. F., ... and Wewers, M. E. (2008). Treating tobacco use and dependence: 2008 update.
2. Sims, T.H. (2009). Technical report: Tobacco use as a substance of abuse. *Pediatrics*, 124(5).
3. Pbert, L., Druker, S., DiFranza, J. R., Gorak, D., Reed, G., Magner, R., . . . Osganian, S. (2011). Effectiveness of a school nurse-delivered smoking-cessation intervention for adolescents. *Pediatrics*, 128(5): 926-936.
4. Pbert, L., Osganian, S. K., Gorak, D., Druker, S., Reed, G., O'Neill, K. M., and Sheetz, A. (2006). A school nurse-delivered adolescent smoking cessation intervention: A randomized controlled trial. *Preventive Medicine*, 43(4): 312-320.

# Stages of Change

The Stages of Change (also called the Transtheoretical Model or TTM) help us understand where in the process (i.e., what stage) a person is in terms of making a behavior change, such as quitting tobacco. **There are five Stages of Change and the stages can be thought of as a cycle; people can move backwards or forwards in the cycle at any time.**

It is important to have an idea of which stage a tobacco user is in, in order to best assist him or her in cessation. For example, a student who is in the precontemplation stage will be unaware that his or her tobacco use is a problem and may not have thought about quitting. In this case, motivational interviewing techniques can be used to help the student become aware of the problem and move him/her to the next stage of change (see page 22). If a student expresses interest in quitting in the near future, he or she is in the preparation stage. Offer to help the student set a quit date, fill out the quit plan, identify triggers and coping strategies, provide support and arrange for follow-up (see page 23). A person's stage of change will guide your efforts to help him or her become tobacco free.



Adapted from Prochaska and DiClemente<sup>1</sup>

State of Change	Characteristics	How to Help
Precontemplation	Student is unaware of the problems with their tobacco use. Student is not thinking about quitting any time soon.	Motivational interviewing
Contemplation	Student is weighing the pros and cons of tobacco use and is starting to think about making a change.	Motivational interviewing
Preparation	Student is preparing to make a quit attempt. The student might have chosen a quit date or started looking for people or resources to help with quitting.	Set a quit date, Fill out a quit plan, Identify triggers and coping strategies
Action	The student is actively trying to quit tobacco.	Follow up regularly, Provide support
Maintenance	The student has successfully quit tobacco for a period of time.	Discuss relapse prevention strategies

## References

1. Prochaska, J. O., and DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research and Practice*, 19(3): 276.



# Motivational Interviewing

One definition of motivational interviewing (MI) is: a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence.<sup>1</sup>



Visit [cessationineveryschool.org](http://cessationineveryschool.org) to watch a school nurse utilize motivational interviewing with an adolescent who uses tobacco.

A person's motivation to change a behavior, such as quitting tobacco, is always fluctuating. MI helps people explore and resolve their uncertainties about changing a behavior. When thinking about trying to quit tobacco, a young person will experience many moments of doubt. **However, MI can reduce a person's resistance to quitting tobacco by increasing awareness that tobacco use is a problem, strengthening motivation to quit and increasing confidence in one's ability to quit.** MI avoids an aggressive or confrontational approach and instead steers people towards choosing to change their behavior and enhances their self-confidence to do so.<sup>2</sup> Practicing MI with students who are currently uninterested or unwilling to make a quit attempt is critical to increasing the likelihood that they will make a quit attempt in the future. **The goal of MI is to help young people realize that they want to quit and to help them do so.**

**MI can be practiced by anyone who works with students. The key characteristics needed to be effective at MI are:**

1. Active listening
2. Understanding
3. Demonstrating empathy
4. Knowledgeable
5. Non-Judgmental

## **MI techniques:**

1. Ask open-ended questions
2. Try to understand the student's frame of reference
3. Express acceptance and affirmation
4. Elicit and selectively reinforce the student's own statements related to behavior change
5. Monitor the student's degree of readiness to change
6. Affirm the student's freedom of choice and self-direction

**Examples of MI questions that you could ask a young person who is uninterested or unwilling to quit tobacco in an effort to reduce ambivalence about quitting:**

1. What warning signs would let you know that this is a problem?
2. Have you tried to quit tobacco in the past?
3. What would have to happen for you to know that this is a problem?
4. What are your reasons for not quitting?
5. What might help you quit?
6. What do you think you need to learn about quitting?
7. What could happen if you don't quit?
8. What would be the good things about quitting?
9. If you were to decide to quit, what would you have to do to make this happen?
10. How can I help you get past some of the difficulties you are experiencing?
11. What is the best thing you can imagine about quitting?
12. If you make changes like quitting, how will your life be different from what it is today?

## **Learn more about MI:**

- **Motivational Interviewing Network of Trainers:** <http://www.motivationalinterviewing.org/>
- **American Academy of Pediatrics:** <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/ HALF-Implementation-Guide/communicating-with-families/pages/Motivational-Interviewing.aspx>
- **Nova Southeastern University:** [http://www.nova.edu/gsc/forms/mi\\_rationale\\_techniques.pdf](http://www.nova.edu/gsc/forms/mi_rationale_techniques.pdf)

## References

1. Rollnick S., and Miller, W.R. (1995). What is motivational interviewing? *Behavioural and Cognitive Psychotherapy*, 23: 325-334.
2. Lai, D. T. C., Cahill, K., Qin, Y., and Tang, J. L. (2011). Does motivational Interviewing help people who smoke to quit?. Retrieved from: [http://www.cochrane.org/CD006936/TOBACCO\\_does-motivational-interviewing-help-people-who-smoke-to-quit](http://www.cochrane.org/CD006936/TOBACCO_does-motivational-interviewing-help-people-who-smoke-to-quit).

# My Personalized Quit Plan – Overview

All cessation interventions should include a behavioral component, such as the completion of an evidence-based quit plan, to achieve optimal success.

An evidence-based quit plan template and a follow-up form for adolescent tobacco cessation interventions were developed for this toolkit. The quit plan template covers reasons for quitting, triggers, coping strategies, support and the rewards of quitting. It should be completed with persons who are in the preparation or action stage of quitting tobacco (see page 21). **You can increase a young person’s chances of successfully quitting by helping him or her develop a quit plan using the template on page 27.**

The follow-up form (page 31) covers withdrawal symptoms, triggers experienced, coping strategies used, positive changes experienced and confidence level to remain tobacco-free. It should be completed with young people who are coming back for follow-up throughout a quit attempt.

These tools are unique in several aspects. **These tools were developed from the evidence base (see pages 47-48) and are centered in the most recent research advances in adolescent cessation treatments.** While many of the components of adult cessation interventions can be used with adolescents, there are some unique differences that must be addressed, and all components need to be developmentally appropriate for this age group. These tools are easy to use for both cessation providers (aka “quit coaches”) and adolescents and are variable in the amount of time required to complete. An initial cessation intervention meeting, including using the 5As and completing the quit plan template, could take 20 to 60 minutes, depending on the amount of time available to provide the service. While most of the existing cessation curriculums for adolescents require a group or class setting and the purchase of materials, these tools can be used one-on-one and at no cost. **By having the flexibility to provide individual, on-the-spot cessation interventions, cessation providers in the school setting can reach young people more effectively than they would by referring them to outside services or asking them to wait until there is enough interest and participation to justify a group cessation class.**



# How to Use My Personalized Quit Plan

The quit plan should be used only with young people who are currently ready and willing to quit tobacco. This quit plan was designed to be completed by an adolescent with the guidance and support of an adult, such as a school nurse or other school professional, who will serve as the “quit coach.”

**The quit coach should guide the young person through its completion, section-by-section, asking open-ended questions and stimulating conversation along the way.** The quit coach can ask the young person the questions on the quit plan and write down his or her responses, or give the quit plan directly to the young person to fill out. However, the quit coach should be involved in the development of the plan by engaging the young person in conversation about the quit plan and not simply hand it out like a homework assignment. Once completed, the quit coach and young person should both keep a copy of the quit plan. An overview of each section of the quit plan is provided below and an example of a completed quit plan can be found on pages 29-30.



Visit [cessationineveryschool.org](http://cessationineveryschool.org) to watch a school nurse create a quit plan with an adolescent who uses tobacco.

## My quit date

It is important for all tobacco users completing the quit plan to set a quit date. **This is the day on which the young person will stop using all tobacco products.** The ideal quit date is approximately two weeks from the time of the completion of the quit plan. This provides enough time for the young person to start to put the quit plan into place, practice his or her coping skills, have his or her support system in place, and cut down on tobacco use. If the young person proposes a quit date longer than two weeks, it may be an indication he or she is still in the precontemplation or contemplation stages of change (see page 21) and motivational interviewing techniques should be employed to reduce the young person’s ambivalence about quitting (see page 22).

## Follow up appointment

Before the young person leaves, a follow-up appointment should be scheduled. Research finds that the more sessions a person attends with a quit coach, the higher his or her chances are of successfully quitting.<sup>1</sup> The follow-up appointment could be scheduled for as little as a few days from the initial appointment, but should be no longer than two weeks from the initial meeting. **During the follow-up appointment, the follow-up form should be completed, successes should be acknowledged and setbacks should be reviewed.** The quit plan may need to be adapted during the follow-up appointment and additional follow-up appointments can be scheduled.

## Reasons to quit

In this section of the quit plan, the young person should make a list of all of the reasons why he or she wants to quit. Examples might be, “it costs too much money” or “I can’t smoke at home or at school.” Encourage the young person to make a long list. It may help to have the young person identify both short-term goals (e.g., going to college, getting a job) and long-term goals (e.g., being a parent) and imagine the impact that tobacco use would have on achieving those goals.

## Triggers

Triggers are people, places, objects, situations or emotions that prompt someone to use tobacco. Triggers are often strongly learned associations. Examples might be:

- **People** - Spending the day with my best friend who smokes, my older brother offering me a cigarette
- **Places** - In my car, at my cousin’s house, at the bowling alley
- **Objects** - Lighters, ashtrays, coffee
- **Situations** - While watching TV, at football games, after school
- **Emotions** - Anger, boredom, stress

Start by explaining what triggers are. If the young person has trouble identifying triggers, ask him or her

to walk you through a typical day, identifying the times when he or she uses tobacco. After the triggers are identified, complete the "What will I do?" column with a list of healthy coping strategies that are alternatives to tobacco use. Coping strategies often fall into one of the "3 As" or "4 Ds" of tobacco cessation.

Consider the 3 As of tobacco cessation when filling out the "What will I do?" section of the quit plan:

**Alternative** - Use an alternative product to satisfy the desire to have tobacco products in the hands or mouth.

- Chew candy, gum, mints, sunflower seeds, straws or toothpicks
- Occupy your hands with silly putty, rubber bands or stress balls
- Brush your teeth

**Alter** - Change the situation or environment that triggers the use of tobacco.

- Pay for your gas at the pump instead of going inside convenience stores
- Ride a bike instead of driving
- Drink tea instead of coffee
- Clean the car so that it doesn't smell like tobacco
- Take breaks by watching funny videos online
- Take deep breaths or go for a jog after an argument
- Spend more time with friends and family members who do not smoke

**Avoid** - Avoid your triggers.

- Take work breaks inside instead of going out back with the smokers
- Avoid spending a lot of time in places that allow smoking
- Avoid drinking coffee while quitting

Alternatively, some quit coaches encourage users to consider the 4 Ds of quitting tobacco:

**Delay** - Delaying tobacco can be an effective cessation strategy. By lengthening the amount of time that passes between a craving and tobacco use, resistance to cravings is strengthened and confidence in your ability to quit is built. Try to increase the length of time between cravings and tobacco use until one is able to completely avoid tobacco use. Cutting down the number of cigarettes smoked or tobacco products used over time can be a successful way to quit.

**Deep Breathing** - Triggers for tobacco use, such as stress, sadness and anger, can often be managed by deep breathing. Taking several deep breaths can also help alleviate cravings and the symptoms of nicotine withdrawal.

**Drink Water** - Similar to deep breathing, drinking water can alleviate cravings and the symptoms of nicotine withdrawal.

**Distract/Do Something Else** - Doing something else allows time for cravings to pass. Staying busy and engaged in hobbies, sports and other activities is an important part of a successful quit attempt.

## Things to do instead

This section is used to list hobbies and activities that can be done instead of using tobacco. Examples might include: dancing, playing soccer, practicing piano or reading. It is important to make a list of enjoyable activities that can replace the time that was previously spent using tobacco.

## Support

Support from friends, significant others, family and a quit coach, can greatly increase a person's chances of successfully quitting tobacco. It is important to identify specific individuals who will support one's quit

### References

1. Fiore MC, Jaen CR, Baker TB, et al. (2008). Treating Tobacco Use and Dependence: 2008 Update. Retrieved from: <<http://www.ncbi.nlm.nih.gov/books/NBK63952/>>.



attempt at school, at home, at work and in other modes (i.e., via text messages, phone calls and online – see page 38). **A person’s support system can provide encouragement and accountability during the quit attempt.** In addition, letting people know about a quit attempt can reduce the number of people who use tobacco around the youth, thus reducing temptations and triggers.

## Other support strategies

Other support strategies might include the use of online, social media and text messaging programs (see page 38), self-help materials and worksheets or use of a nicotine replacement therapy product (see page 35).

## Rewards of quitting

**Research finds that young people are motivated to quit tobacco by rewards such as having more money, being more attractive to potential romantic partners, and fitting in with their peers.** Efforts to promote cessation among young people are most successful when they focus on these types of rewards as well as social norming messages (i.e., 9 out of 10 CPS high school students do not use tobacco; 88% of CPS students prefer to kiss nonsmokers), rather than long-term health consequences such as emphysema and cancer.



# My Personalized Quit Plan

Name:

---

My Quit Date:

Follow-Up Appointment:

---

## Reasons to quit

---

*Examples: It costs too much, I can't use tobacco in a lot of places*

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

## Triggers

---

**Triggers are situations that prompt you to want to smoke.**

*Examples: After a meal, driving, stress, feeling bored, feeling sad*

Trigger 1	What will I do?
Trigger 2	What will I do?
Trigger 3	What will I do?
Trigger 4	What will I do?
Trigger 5	What will I do?
Trigger 6	What will I do?

## Things to do instead

---

*Examples: Go for a walk, Call a friend who supports your quitting, Hang out in places you're not allowed to use tobacco*

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

## Support

---

Who can support me at home?

Who can support me at school?

Who can support me at work?

Which friends will help me the most when I'm quitting?

Which friends will be less helpful when I'm quitting?

## Other support strategies

---

*Examples: nicotine replacement therapy patches or gum, Call 1-800-Quit-NOW, Get online support at [www.becomeanex.org](http://www.becomeanex.org)*

- 1.
- 2.
- 3.
- 4.

## Rewards of quitting

---

- 1.
- 2.
- 3.
- 4.

# My Personalized Quit Plan

Name: Alyssa Johnson

---

My Quit Date: October 15th

Follow-Up Appointment: October 18th

---

## Reasons to quit

---

*Examples: It costs too much, I can't use tobacco in a lot of places*

1. I don't want my little brother to start smoking.
2. I have to hide it from my parents.
3. My hair and clothes smell like smoke.
4. My boyfriend doesn't smoke.
5. We have to start running track in PE class.
6. I don't want to be a smoker when I graduate.

## Triggers

---

**Triggers are situations that prompt you to want to smoke.**

*Examples: After a meal, driving, stress, feeling bored, feeling sad*

**Trigger 1**

Fights with my mom

**What will I do?**

Take deep breaths, go jogging

**Trigger 2**

After school

**What will I do?**

Spend time with my brother

**Trigger 3**

When I'm with my friends who smoke

**What will I do?**

Go to places without smoking like the movies, ask them to not offer me cigarettes, spend more time with friends who don't smoke

**Trigger 4**

Gas station

**What will I do?**

Pay for my gas at the pump, go to a different station

**Trigger 5**

Watching TV

**What will I do?**

Brush my teeth beforehand

**Trigger 6**

When I'm on the phone

**What will I do?**

Chew gum, drink water



## Things to do instead

---

*Examples: Go for a walk, Call a friend who supports your quitting, Hang out in places you're not allowed to use tobacco*

1. Practice piano.
2. Dance classes.
3. Take my brother places.
4. Listen to music.
5. Read a book.
6. Go to the mall.

## Support

---

Who can support me at home? My brother

Who can support me at school? My friends who don't smoke, nurse

Who can support me at work? Jenny

Which friends will help me the most when I'm quitting? Cassie, Joe

Which friends will be less helpful when I'm quitting? Erica, Ron, Dan

## Other support strategies

---

*Examples: nicotine replacement therapy patches or gum, Call 1-800-Quit-NOW, Get online support at [www.becomeanex.org](http://www.becomeanex.org)*

1. Chew gum.
2. Download smokefreeTXT.
3. Visit the school nurse once a week.
- 4.

## Rewards of quitting

---

1. More money for clothes.
2. Not hiding from my parents.
3. Not disappointing my brother.
4. Not having bad breath.

# Follow-Up Form

Name: \_\_\_\_\_

Next Appointment: \_\_\_\_\_

**1. Please circle all withdrawal symptoms you have experienced in the last 7 days.**

Desire to smoke (cravings)	Irritability	Restlessness
Dizziness	Headache	Stomach/bowel problems
Anxiety/depression	Difficulty concentrating	Increased eating
Difficulty sleeping	Increased stress	Other: _____
Coughing More		

**2. Please circle all the triggers you have experienced in the last 7 days.**

When I wake up	After class/school	With coffee or alcohol
After a meal	Talking on the phone	When I'm with certain friends
During social events	Relaxing	When I'm sad
During breaks	Boredom	When I'm angry
In the car	When I'm getting ready for bed	Other: _____

**3. Please circle all the coping strategies you have used in the last 7 days.**

Drink water	Reduce alcohol/caffeine intake	Go to places that don't allow smoking
Exercise	Call a supportive friend	Chew gum/candy
Deep breathing	Avoid people who are smoking	Use nicotine patches or gum
Avoid triggers	Ride a bike	Work on a hobby
Brush teeth	Take a walk	Play with a pet
Distract myself	Other: _____	

**4. Please circle any positive changes experienced since you quit or cut back on tobacco.**

Less coughing	Better circulation in hands and feet	Less sinus problems
Easier to breathe	Increased energy	More relaxed, less anxiety
Food tastes better	Sleep improvement	Better concentration
Improved sense of smell	More money	Better grades
Exercise is easier	Whiter teeth	Better relationships
Clearer skin	Fresher breath	Other: _____

**5. Since my quit date I have used tobacco:**

Not at all                      1-2 times                      2-5 times                      5 or more times                      Everyday

**6. How confident are you that you can stay tobacco free? Please circle your current confidence level.**

← Not at all confident                      Somewhat confident                      Very confident →

1                      2                      3                      4                      5                      6                      7                      8                      9                      10

# Nicotine Withdrawal and Cravings

Nicotine is the main addictive substance found in tobacco products and electronic nicotine delivery systems (see page 3).

Symptoms of nicotine withdrawal vary from person to person. In adolescents, symptoms may include:<sup>1-2</sup>

- Cravings
- Trouble sleeping
- Irritability, frustration or anger
- Restlessness or anxiety
- Trouble concentrating
- Increased hunger
- Feeling sad, down or depressed

**Withdrawal symptoms may peak around one week into the quit attempt and will then begin to decrease.<sup>3</sup> By the second week into a quit attempt, most adolescents experience few withdrawal symptoms.<sup>3</sup>**

Adolescents who use tobacco, those that are making quit attempts and former tobacco users may all experience cravings. Cravings are a symptom of nicotine withdrawal, resulting from physiological nicotine dependence, behavioral habits or a combination of the two. **Cravings may be intense but will normally pass after a few minutes - whether or not the individual uses tobacco.** Knowing that cravings are short (3-10 minutes), often reassures people that they can ride out a craving by utilizing one of the 3 As or 4 Ds (see page 25). Each time a young person is able to resist a craving, he or she is one step closer to being tobacco free.

## References

1. Prokhorov, A. V., Hudmon, K. S., de Moor, C. A., Kelder, S. H., Conroy, J. L., and Ordway, N. (2001). Nicotine dependence, withdrawal symptoms, and adolescents' readiness to quit smoking. *Nicotine and Tobacco Research*, 3(2): 151-155.
2. Bailey, S. R., Harrison, C. T., Jeffery, C. J., Ammerman, S., Bryson, S. W., Killen, D. T., and Schatzberg, A. F. (2009). Withdrawal symptoms over time among adolescents in a smoking cessation intervention: Do symptoms vary by level of nicotine dependence? *Addictive Behaviors*, 34(12): 1017-1022.
3. Engels, R. C. M. E., Vermulst, A. A., Zundert, R. M. P. v., and Boogerd, E. (2009). Nicotine withdrawal symptoms following a quit attempt: An ecological momentary assessment study among adolescents. *Nicotine and Tobacco Research*, 11(6): 722-729.

# Nicotine Dependence Tests<sup>1</sup>

The **Fagerstrom Nicotine Checklist test for nicotine dependence is a helpful tool that can be used with anyone making a quit attempt.** This tool provides a measure of physiological nicotine dependence. It does not address psychological dependence (e.g., learned behaviors, associations, and habits). It may be helpful to complete the Fagerstrom test before or during quit plan development.

Those with higher levels of physiological nicotine dependence may experience more withdrawal symptoms, may need more intensive coaching, and may benefit from gradually tapering tobacco use.

## 1. How soon after you wake up do you smoke your first cigarette?

- Within 5 minutes (3 points)
- 5 to 30 minutes (2 points)
- 31 to 60 minutes (1 point)
- After 60 minutes (0 points)

## 2. Do you find it difficult not to smoke in places where you shouldn't, such as in church or school, in a movie, at the library, on a bus, in a court or in a hospital?

- Yes (1 point)
- No (0 points)

## 3. Which cigarette would you most hate to give up; which cigarette do you treasure the most?

- The first one in the morning (1 point)
- Any other one (0 points)

## 4. How many cigarettes do you smoke each day?

- 10 or fewer (0 points)
- 11 to 20 (1 point)
- 21 to 30 (2 points)
- 31 or more (3 points)

## 5. Do you smoke more during the first few hours after waking up than during the rest of the day?

- Yes (1 point)
- No (0 points)

## 6. Do you still smoke if you are so sick that you are in bed most of the day, or if you have a cold or the flu and have trouble breathing?

- Yes (1 point)
- No (0 points)

### Scoring:

7 to 10 points = highly dependent

4 to 6 points = moderately dependent

Less than 4 points = minimally dependent

#### References

1. Heatherton, T. F., Kozlowski, L. T., Frecker, R. C., and FAGERSTROM, K. O. (1991). The Fagerström test for nicotine dependence: A revision of the Fagerstrom tolerance questionnaire. *British Journal of Addiction*, 86(9): 1119-1127.



## The Hooked on Nicotine Checklist - For Cigarette Smokers:

The Hooked on Nicotine Checklist (HONC) is another measure of physiological dependence on nicotine. More "yes" answers indicate stronger dependence on nicotine, indicating youth may need extra supports while quitting.

	YES	NO
1) Have you ever tried to quit, but couldn't?	___	___
2) Do you smoke now because it is really hard to quit?	___	___
3) Have you ever felt like you were addicted to tobacco?	___	___
4) Do you ever have strong cravings to smoke?	___	___
5) Have you ever felt like you really needed a cigarette?	___	___
6) Is it hard to keep from smoking in places where you are not supposed to, like school? When you tried to stop smoking... (or, when you haven't used tobacco for a while...)	___	___
7) Did you find it hard to concentrate because you couldn't smoke?	___	___
8) Did you feel more irritable because you couldn't smoke?	___	___
9) Did you feel a strong need or urge to smoke?	___	___
10) Did you feel nervous, restless or anxious because you couldn't smoke?	___	___



## The Hooked on Nicotine Checklist - For E-Cigarette Users:

	YES	NO
1) Have you ever tried to quit, but couldn't?	___	___
2) Do you vape now because it is really hard to quit?	___	___
3) Have you ever felt like you were addicted to vaping?	___	___
4) Do you ever have strong cravings to vape?	___	___
5) Have you ever felt like you really needed an e-cigarette/vape?	___	___
6) Is it hard to keep from vaping in places where you are not supposed to, like school? When you tried to stop vaping... (or, when you haven't used an e -cigarette/vape for a while...)	___	___
7) Did you find it hard to concentrate because you couldn't vape?	___	___
8) Did you feel more irritable because you couldn't vape?	___	___
9) Did you feel a strong need or urge to vape?	___	___
10) Did you feel nervous, restless or anxious because you couldn't vape?	___	___



# Section 3: Resources

# Nicotine Replacement Therapy and Cessation Medications: Overview

Nicotine replacement therapy products and cessation medications, when paired with a behavioral intervention such as a quit plan, increase a person's chances of successfully quitting tobacco. In addition, research finds these products to be effective and safe for use by adolescents, with no more risk of side effects than seen in adults.

## Nicotine replacement therapy (NRT)

Similar to adults, adolescent smokers experience withdrawal symptoms that can be reduced by pharmacological interventions.<sup>1</sup> Behavioral strategies combined with nicotine replacement therapy will increase the number of successful smoking cessation attempts among youth.<sup>1</sup> The most common forms of NRT (patches, gum and lozenges) are available over-the-counter at pharmacies, drug stores and retail outlets. Other forms of NRT and cessation medications (nasal spray, inhaler, varenicline and bupropion SR) require a prescription. These products may be available to some individuals at no cost depending on his or her insurance or Medicaid. Types of pharmacological therapies and appropriate dosing are discussed below.



## Evidence and recommendations for Using NRT with adolescent tobacco users:

- Adolescents not interested in quitting smoking can still reduce tobacco use through cigarette reduction and NRT use.<sup>2</sup> In a study conducted at the University of Minnesota, adolescents were told to reduce their smoking by 25% during the first week of the program and by 50% during the subsequent three weeks. At the end of treatments, 49% of adolescents had reduced smoking by at least 50%. The results suggest that cigarette reduction along with NRT may be a potential aid to engage adolescents who are unable or unwilling to quit, but should not be an end goal.
- NRT use significantly increases self-reported and biochemically verified smoking abstinence rates in adolescents.<sup>3-7</sup>
- Approximately 5% of adolescents reported trying or currently using nicotine gum or patches, and almost 40% of former adolescent smokers reported using NRT to try to quit smoking.<sup>8</sup> **More than 50% of adolescents reported that it would be easy for them to get NRT.**
- Participation in cessation counseling was significantly associated with increased NRT use by adolescent tobacco users, whereas attending anti-smoking classes in school was inversely associated with using NRT.<sup>9</sup> School-based antismoking classes should discourage tobacco use without discouraging the use of nicotine products that are FDA approved to help users quit (e.g., nicotine patches, gum and lozenges).
- In a study of the safety and efficacy of NRT use among adolescent tobacco users, compliance was higher for the use of NRT patches than for NRT gum.<sup>4</sup> Both NRT products were well tolerated, and side effects were similar to those reported in adults. No serious adverse events were reported.<sup>5-6</sup>
- NRT use along with behavioral therapy is effective in helping adolescent smokeless tobacco users quit.<sup>10</sup>
- NRT use and counseling not only improve smoking abstinence rates in adolescents, they also reduce nicotine dependence and withdrawal symptoms.<sup>7</sup>

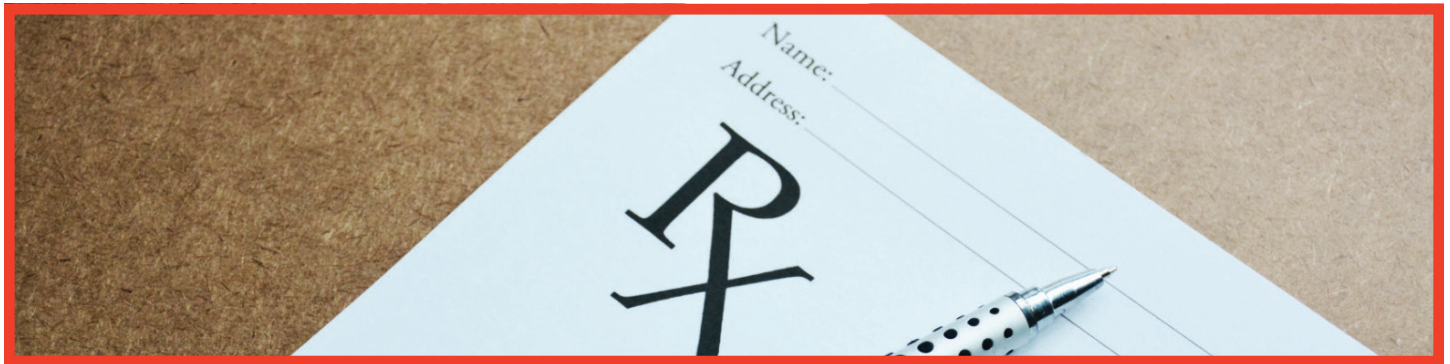


# Cessation medications

**Prescription medications are also available to help tobacco users quit.** Some can be used along with nicotine replacement therapy (NRT), and some must be started before a person's planned quit day. A prescription is needed for these medications. Types of pharmacological therapies and appropriate dosing are discussed below.

## Recommendations:

- Adolescents do not experience any more side effects from cessation medications than reported in adults.<sup>11-12</sup>
- Adolescents can receive lower doses of cessation medications according to their body weight.<sup>12</sup>
- A study of varenicline and bupropion XL use in adolescent smokers reported no serious adverse events.<sup>13</sup>
- If pharmacotherapy is used to treat adolescent tobacco users, it should be individualized (based on smoking patterns, patient preferences and comorbidities) and combined with psychosocial and behavioral interventions.<sup>14</sup>
- Combination nicotine patch, bupropion SR and counseling sessions achieved a 28% abstinence rate for adolescent smokers 26 weeks from baseline.<sup>15</sup> Combinations of NRT, cessation medication and counseling are effective at achieving long term cessation.<sup>15</sup>



## References

1. Maharaj, K., and Ternullo, S. (2001). Using nicotine replacement therapy in treating nicotine addiction in adolescents. *Journal of School Nursing*, 17(5): 278-282.
2. Hanson, K., Zylla, E., Allen, S., Li, Z., and Hatsukami, D.K. (2008). Cigarette reduction: An intervention for adolescent smokers. *Drug and Alcohol Dependence*, 95(1-2): 164-168.
3. Hurt RD, Croghan GA, Beede SD, Wolter TD, Croghan IT, Patten CA. Nicotine patch therapy in 101 adolescent smokers: efficacy, withdrawal symptom relief, and carbon monoxide and plasma cotinine levels. *Arch Pediatr Adolesc Med*. 2000;154(1):31-37.
4. Moolchan, E. T., Robinson, M. L., Ernst, M., Cadet, J. L., Pickworth, W. B., Heishman, S. J., and Schroeder, J. R. (2005). Safety and efficacy of the nicotine patch and gum for the treatment of adolescent tobacco addiction. *Pediatrics*, 115(4): e407-e414.
5. Scherphof, C. S., van den Eijnden, R. J., Engels, R. C., and Vollebergh, W. A. (2014). Short-term efficacy of nicotine replacement therapy for smoking cessation in adolescents: A randomized controlled trial. *Journal of Substance Abuse Treatment*, 46(2): 120-127.
6. Smith, T. A., House, R. F., Croghan, I. T., Gauvin, T. R., Colligan, R. C., Offord, K. P., ... and Hurt, R. D. (1996). Nicotine patch therapy in adolescent smokers. *Pediatrics*, 98(4): 659-667.
7. Swanson, A. N., Shoptaw, S., Heinzerling, K. G., Wade, A. C., Worley, M., McCracken, J., ... and London, E. D. (2013). Up in smoke? A preliminary open-label trial of nicotine replacement therapy and cognitive behavioral motivational enhancement for smoking cessation among youth in Los Angeles. *Substance Use and Misuse*, 48(14): 1553-1562.
8. Klesges, L. M., Johnson, K. C., Somes, G., Zbikowski, S., and Robinson, L. (2003). Use of nicotine replacement therapy in adolescent smokers and nonsmokers. *Archives of Pediatrics and Adolescent Medicine*, 157(6): 517-522.
9. Lane, N. E., Leatherdale, S. T., and Ahmed, R. (2011). Use of nicotine replacement therapy among Canadian youth: Data from the 2006-2007 national youth smoking survey. *Nicotine and Tobacco Research*, 13(10): 1009-1014.
10. Stotts, R. C., Roberson, P. K., Hanna, E. Y., Jones, S. K., and Smith, C. K. (2003). A randomised clinical trial of nicotine patches for treatment of spit tobacco addiction among adolescents. *Tobacco Control*, 12(suppl 4): iv11-iv15.
11. Bailey, S. R., Crew, E. E., Riske, E. C., Ammerman, S., Robinson, T. N., and Killen, J. D. (2012). Efficacy and tolerability of pharmacotherapies to aid smoking cessation in adolescents. *Pediatric Drugs*, 14(2): 91-108.
12. Faessel, H., Ravva, P., and Williams, K. (2009). Pharmacokinetics, safety, and tolerability of varenicline in healthy adolescent smokers: A multicenter, randomized, double-blind, placebo-controlled, parallel-group study. *Clinical Therapeutics*, 31(1): 177-189.
13. Gray, K. M., Carpenter, M. J., Baker, N. L., Hartwell, K. J., Lewis, A. L., Hiott, D. W., ... and Upadhyaya, H. P. (2011). Bupropion SR and contingency management for adolescent smoking cessation. *Journal of Substance Abuse Treatment*, 40(1): 77-86.
14. Karpinski, J. P., Timpe, E. M., and Lubsch, L. (2010). Smoking cessation treatment for adolescents. *The Journal of Pediatric Pharmacology and Therapeutics*, 15(4): 249-263.
15. Killen, J. D., Robinson, T. N., Ammerman, S., Hayward, C., Rogers, J., Stone, C., ... and Schatzberg, A. F. (2004). Randomized clinical trial of the efficacy of bupropion combined with nicotine patch in the treatment of adolescent smokers. *Journal of Consulting and Clinical Psychology*, 72(4), 729.

# Nicotine Replacement Therapy and Cessation Medications: Dosing

Nicotine replacement therapy (NRT) and cessation medication dosing will likely be similar for adolescents and adults. The type of NRT or medication used and dosing should be determined by health care professionals and based on the adolescent's body size, nicotine dependence level and medical history.

FDA approved NRT and medication include:

	Availability*	Dosage	Duration	Education
<b>Nicotine Patches</b>	OTC	21 mg/day for > 10 cigs/day 14 mg/day or 7 mg/day for ≤ 10 cigs/day OR if <100 lbs	Up to 12 weeks Taper after 4-6 weeks	Apply each day to dry, hairless skin  Rotate site daily  Remove before bedtime if needed to avoid insomnia
<b>Nicotine Gum</b>	OTC	2 mg for < 25 cigs/day 4 mg for ≥ 25 cigs/day  Max 1 piece/hour  Use as needed	Up to 12 weeks Taper after 4-6 weeks	Do not chew like ordinary gum  Alternate chewing and "parking" between the cheek and gum to allow nicotine to absorb through the lining of the mouth (about 30 minutes)  Avoid food and acidic drinks (soda and coffee) before and during use
<b>Nicotine Lozenges</b>	OTC	2 mg if smoke 1st cig more than 30 minutes after waking 4 mg if smoke 1st cig within 30 minutes of waking  Do not use more than 20 lozenges/day  Use as needed	Up to 12 weeks Taper after 4-6 weeks	Do not bite, chew or swallow  Allow to absorb in mouth slowly (20-30 minutes)  Avoid food and acidic drinks (soda and coffee) before and during use
<b>Nicotine Nasal Spray</b>	RX	Max 40 doses/day 1 dose = 1 spray per nostril	Up to 6 months Taper after 12 weeks	Check with physician
<b>Nicotine Inhaler</b>	RX	6-16 cartridges/day Use 1 cartridge/hour  Use as needed	Up to 6 months Taper after 4-6 weeks	Check with physician
<b>Varenicline (Chantix)</b>	RX	Start 1 week before quit date  Use as prescribed	As prescribed	Check with physician
<b>Bupropion SR (Zyban or Wellbutrin)</b>	RX	Start 1-2 weeks before quit date  Use as prescribed	As prescribed	Can be used with NRT

\*OTC = Over the counter; RX = prescription

For additional information on NRT, cessation medications and dosing:

- **American Cancer Society**  
<http://www.cancer.org/healthy/stayawayfromtobacco/guidetoquittingsmoking/guide-to-quitting-smoking-types-of-nrt>
- **American Academy of Family Physicians**  
<http://www.aafp.org/afp/2001/0601/p2251.html>
- **Mayo Clinic**  
<http://www.mayo.edu/research/documents/medication-handout-2015-02-pdf/doc-20140182>
- **Food and Drug Administration (FDA)**  
<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm>


# Self-Help Materials

In-between visits with the quit coach, adolescents should practice the coping strategies identified in their quit plans and take advantage of the numerous self-help materials available to them. **Depending on the interests and needs of the young person you are helping, work together to choose a few of these self-help resources for the young person to use in-between your appointments.**

\*Highly youth friendly resource

## Online

- \*SfT (Smokefree Teen): <http://teen.smokefree.gov/>
- smokeSCREEN: <https://www.smokescreengame.org/>
- Quit Now: <https://www.quitnow.net/Program/>
- Smokefree.gov: <http://smokefree.gov/>
- Smokefree Women: <http://women.smokefree.gov/>
- BeTobaccoFree.gov: <http://betobaccofree.hhs.gov/quit-now/index.html>
- Quit Tobacco - Make Everyone Proud (for military families): <https://www.ucanquit2.org/>
- American Lung Association: <http://www.lung.org/stop-smoking/>
- American Heart Association: [http://www.heart.org/HEARTORG/GettingHealthy/QuitSmoking/Quit-Smoking\\_UCM\\_001085\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/GettingHealthy/QuitSmoking/Quit-Smoking_UCM_001085_SubHomePage.jsp)
- American Cancer Society: <http://www.cancer.org/healthy/stayawayfromtobacco/guidetoquittingsmoking>
- Become an Ex: <http://www.becomeanex.org/>
- \*truth: <http://www.thetruth.com/>
- truth initiative: <http://truthinitiative.org/>
- ASPIRE: <https://www.mdanderson.org/about-md-anderson/community-services/aspire.htm>
- \*The Real Cost: <http://therealcost.betobaccofree.hhs.gov/>



**Do you know a student age 13 to 17 who currently uses tobacco products?**  
In Missouri 6.5% of youth smoke and 22.8% are using e-cigarettes.

Many tobacco users want to quit. Getting started often takes support and motivation from a trusted source.

The Missouri Tobacco Quitline is now offering specialized services to help youth quit tobacco for life.

This evidence-based counseling program is designed to take an anonymous, non-judgmental approach to coaching adolescent callers. Each quit coach is trained to provide personalized counseling to youth and help with developing a quit plan. We can provide health education and support to any teen that is ready to quit and help with triggers as well as strategies to prevent a relapse.

▶ If you know a teen who is using tobacco, we can help them quit. To refer a teen for the program visit [www.youcanquit.org](http://www.youcanquit.org) and select the referral button at the top of the screen.

With your help we can reduce the burden of tobacco on Missouri's next generation.

**CLICK HERE TO LEARN MORE** **MISSOURI TOBACCO QUITLINE**







## Text message

- \*SmokefreeTXT: <http://teen.smokefree.gov/smokefreeTXT.aspx>
- DITCHJUUL: <https://www.thetruth.com/article/ditch-juul>
- \*Live Vape Free: text VAPEFREEMO to 873373 – Connect with a coach who has specific training on quitting vaping, access games, quizzes, videos, and more.

## Instant messaging

- National Cancer Institute: [https://livehelp.cancer.gov/app/chat/chat\\_launch](https://livehelp.cancer.gov/app/chat/chat_launch)
- American Lung Association: <http://www.lung.org/>

## Phone

- Missouri Tobacco Quitline: 1-800-QUITNOW
- National Cancer Institute: 1-877-44U-QUIT
- American Lung Association: 1-800-LUNGUSA
- American Cancer Society: 1-800-ACS-2345

## Mobile apps

- \*QuitSTART: <http://teen.smokefree.gov/sftapps.aspx>

## Videos

- Tips from Former Smokers: <http://www.cdc.gov/tobacco/campaign/tips/>
- \*truth: <https://www.youtube.com/user/truthorange>
- \*The Real Cost: <https://www.youtube.com/user/KnowTheRealCost>
- CATCH My Breath: <https://www.catch.org/bundles/23725>

## Worksheets and quizzes

- \*Smokefree Teen: <http://teen.smokefree.gov/quizzes.aspx>
- Cost Savings Calculator: <https://www.quitnow.net/missouri/About/Calculator/CostSavings.aspx>

## In-person

- Contact the local health department (cessation services are often available at reduced or no cost)
- Talk to a healthcare provider (cessation services fully covered by Medicaid, Medicare and many private insurers)

# Cessation for Adults

**The cessation services presented in this toolkit will also work for adults.** Cessation providers can and should extend these services to school faculty, staff and parents. Helping school faculty and staff quit will reduce violations of school tobacco-free policies and create role models for adolescent tobacco users who are thinking of quitting. In addition, parents and adolescents may benefit from quitting tobacco together. Engaging parents in cessation will reduce youth exposure to secondhand smoke and easy access to tobacco products in the home.

## **To promote these services to faculty and staff:**

- Hang flyers in lounge and office areas promoting the services
- Announce the services at faculty and staff meetings
- Ask administration to send out an email promoting the services
- Have cessation services listed on tobacco-free signs around the campus

## **To promote these services to parents:**

- Hang flyers in the nurse's office
- Hand out information to all parents who visit the nurse's office
- Bring up tobacco cessation when discussing a child's health issues such as coughing, asthma and respiratory illness
- Let parents know that children are harmed by exposure to secondhand smoke and that anyone who smokes in the home can get help quitting

## Additional Cessation Resources for Adults include:

### Online

- Quit Now: <https://www.quitnow.net/Program/>
- Smokefree.gov: <http://smokefree.gov/>
- Smokefree Women: <http://women.smokefree.gov/>
- BeTobaccoFree.gov: <http://betobaccofree.hhs.gov/quit-now/index.html>
- Quit Tobacco – Make Everyone Proud (for military families): <https://www.ucanquit2.org/>
- American Lung Association: <http://www.lung.org/stop-smoking/>
- American Heart Association: [http://www.heart.org/HEARTORG/GettingHealthy/QuitSmoking/Quit-Smoking\\_UCM\\_001085\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/GettingHealthy/QuitSmoking/Quit-Smoking_UCM_001085_SubHomePage.jsp)
- American Cancer Society: <http://www.cancer.org/healthy/stayawayfromtobacco/guidetoquittingsmoking>
- Become an Ex: <http://www.becomeanex.org/>

### Instant messaging

- National Cancer Institute: [https://livehelp.cancer.gov/app/chat/chat\\_launch](https://livehelp.cancer.gov/app/chat/chat_launch)
- American Lung Association: <http://www.lung.org/>

### Phone

- State Quitline: 1-800-QUITNOW
- National Cancer Institute: 1-877-44U-QUIT
- American Lung Association: 1-800-LUNGUSA
- American Cancer Society: 1-800-ACS-2345



## Videos

- Tips from Former Smokers: <http://www.cdc.gov/tobacco/campaign/tips/>

## Worksheets and quizzes

- Cost Savings Calculator: <https://www.quitnow.net/missouri/About/Calculator/CostSavings.aspx>

## In-person

- Contact the local health department (cessation services are often available at reduced or no cost)
- Talk to a healthcare provider (cessation services fully covered by Medicaid, Medicare and many private insurers)

# Resources for Tobacco Prevention

Along with cessation services, prevention resources should be utilized in a comprehensive effort to decrease adolescent tobacco use. School-based tobacco prevention programs are effective at reducing tobacco use initiation among youth.<sup>1</sup>

According to the CDC, successful school-based tobacco prevention efforts should include<sup>2</sup>:

- Education about the short-term and long-term negative physical, cosmetic, and social consequences of tobacco use
- Practices that change the social norms related to smoking, decrease social acceptability, and help youth understand that most of their peers do not smoke
- Information about the reasons teens begin to smoke, such as a desire for maturity and acceptance, with guidance toward more positive means to achieve these goals
- Exposure of the tobacco industry's manipulative marketing practices and targeting of youth and development of the skills to counter these messages
- Refusal skills training (i.e., refusal to try tobacco, saying "no")



Many evidence-based national and local tobacco prevention resources are available for the school-based setting.

## Local resources

- **Missouri Department of Health and Human Services:**  
<http://health.mo.gov/living/wellness/tobacco/smokingandtobacco/tobaccocontrol.php>
- **Wyman's Teen Outreach Program:**  
<http://wymancenter.org/midwest/>
- **ACT Missouri:**  
<https://www.actmissouri.org/>
- **National Council on Alcoholism and Drug Abuse-St. Louis Area (NCADA):**  
<http://ncada-stl.org/prevention-programs/school-based-programs/k-12-programs/>

## National resources

- **Campaign for Tobacco Free Kids:**  
<http://www.tobaccofreekids.org/>
- **truth initiative:**  
<http://truthinitiative.org/>
- **SfT (Smokefree Teen):**  
<http://teen.smokefree.gov/>
- **The Real Cost:**  
<http://therealcost.betobaccofree.hhs.gov/>
- **CDC's Effective Tobacco Countermarketing Campaign:**  
[http://www.cdc.gov/tobacco/stateandcommunity/counter\\_marketing/manual/index.htm](http://www.cdc.gov/tobacco/stateandcommunity/counter_marketing/manual/index.htm)
- **Surgeon General's - Report Preventing Tobacco Use Among Youth and Young Adults:**  
[http://www.cdc.gov/tobacco/data\\_statistics/sgr/2012/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/2012/index.htm)
- **The Social Norms Approach:**  
<http://www.alanberkowitz.com/articles/social%20norms%20approach-short.pdf>

## A note on tobacco industry youth prevention programs

Tobacco and e-cigarette companies have created their own youth “prevention” programs; however, research finds that these programs are ineffective and therefore should not be used. The 2012 Surgeon General’s Report, *Preventing Tobacco Use Among Youth and Young Adults*, states, “The tobacco companies’ activities and programs for the prevention of youth smoking have not demonstrated an impact on the initiation or prevalence of smoking among young people.”<sup>3</sup> Read more at:

- Campaign for Tobacco Free Kids. (2015). Big surprise: Tobacco company prevention campaigns don’t work; Maybe it’s because they are not supposed to. Retrieved from: <https://www.tobaccofreekids.org/research/factsheets/pdf/0302.pdf>



### References

1. Campaign for Tobacco Free Kids. (2015). School-based programs reduce tobacco use. Retrieved from: <http://www.tobaccofreekids.org/research/factsheets/pdf/0050.pdf>.
2. Centers for Disease Control and Prevention. (1994). Guidelines for school health programs to prevent tobacco use and addiction. *Morbidity and Mortality Weekly Report*; 43(RR-2).
3. U.S. Department of Health and Human Services. (2012). Preventing tobacco use among youth and young adults: A report of the Surgeon General. Retrieved from: <http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf>.

# School District Tobacco-Free Policies

## How to find your school district tobacco-free policy

For school districts using the Missouri Consultants for Education ([www.moconed.com](http://www.moconed.com)) policies, check Policy 2640 (related to smoking). Most of these policies are expanded in Regulations 2610, which defines the penalties that are involved when students commit tobacco policy infractions. For school districts using the Missouri School Board ([www.msbanet.org](http://www.msbanet.org)) policies, check Section A (covers tobacco-free campus policies) and Section I (covers tobacco discipline issues).

## The gold standard

**To reinforce tobacco prevention messages and cessation services, schools should implement and enforce strong, comprehensive tobacco-free policies.** A comprehensive school tobacco-free policy must be consistent with state and local laws and should include the following elements<sup>1-2</sup>:

- An explanation of the rationale for preventing tobacco use
- Prohibition of tobacco use by students, faculty, staff, contractors, parents and visitors
- Prohibition of tobacco use on school property (owned, leased or rented), in school vehicles (owned, leased or rented) and at school-sponsored functions away from school property
- Prohibition of all tobacco and electronic nicotine delivery system products – including, but not limited to: cigarettes, cigars, pipes, smokeless tobacco and e-cigarettes
- Provisions for enforcing the policy 24 hours a day, 365 days a year
- Designation of a person responsible for policy enforcement
- Procedures for communicating the policy to students, faculty, staff, contractors, parents and visitors
- Provisions for the consequences of violating the policy for students, faculty, staff, contractors, parents and visitors
- Provisions for students, faculty and staff to have access to tobacco cessation services
- **Designates cessation** and education for offenses by students and staff, not just punitive measures
- A requirement that all students receive tobacco prevention and education messages

## How to strengthen your policy

**The Missouri Tobacco Prevention and Control Program will be working with local health departments and school districts to assure that districts have tobacco-free policies that are comprehensive.** You can access the Missouri Guide to a Tobacco and Vape-Free School District at:

<https://health.mo.gov/living/wellness/tobacco/smokingandtobacco/pdf/missouri-guide-to-creating-a-comprehensive-tobacco-and-vape-free-school.pdf>

For more information, contact:

### Missouri Tobacco Prevention and Control Program

[motobaccoprogram@health.mo.gov](mailto:motobaccoprogram@health.mo.gov)  
Missouri Department of Health and Senior Services  
(573) 522-2824

### State School Nurse Consultant

[shs@health.mo.gov](mailto:shs@health.mo.gov)  
Missouri Department of Health and Senior Services  
(573) 522-2622



#### References

1. Centers for Disease Control and Prevention. (1994). Guidelines for school health programs to prevent tobacco use and addiction. Morbidity and Mortality Weekly Report, 43(RR-2): 1-18.

2. Barbero, C., Moreland-Russell, S., Bach, L. E., and Cyr, J. (2013). An evaluation of public school district tobacco policies in St. Louis County, Missouri. Journal of School Health, 83(8), 525-532.

3. Nebraska Department of Health and Human Services. (n.d.). Tobacco free school kit. Retrieved from: <<http://dhhs.ne.gov/publichealth/Documents/TFSchoolToolkit.pdf>>.

# Who Can Help?

There are professionals in Missouri who can assist you in using this toolkit and providing tobacco cessation services.

## **Jenna Wintemberg, PhD, MPH, CHES, CTTS**

For more information and to request a training: [cessationineveryschool@gmail.com](mailto:cessationineveryschool@gmail.com)

University of Missouri

ACES, Creator and Trainer, Nationally Certified Tobacco Treatment Specialist

## **Marjorie Cole, MSN, RN**

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State School Nurse Consultant

Missouri Department of Health and Senior Services

(573) 522-2622

## **Kevin Everett, PhD**

[everettk@health.missouri.edu](mailto:everettk@health.missouri.edu)

Associate Professor

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(573) 882-2190

## **Missouri Tobacco Prevention and Control Program**

[motobaccoprogram@health.mo.gov](mailto:motobaccoprogram@health.mo.gov)

Missouri Department of Health and Senior Services

(573) 522-2824

## **Diane Coffman, EdS, MEd**

[diane.coffman@health.mo.gov](mailto:diane.coffman@health.mo.gov)

Cessation Coordinator, Comprehensive Tobacco Control

Missouri Department of Health and Senior Services

(573) 441-6231

## **Books and Guides:**

- Jaen, C. R., Baker, T. B., Bailey, W. C., Benowitz, N. L., Curry, S. E. E. A., Dorfman, S. F., ... and Wewers, M. E. (2008). Treating tobacco use and dependence: 2008 update. <http://www.ncbi.nlm.nih.gov/books/NBK63952/>.
- Abrams, D. B., and Niaura, R. (Eds.). (2003). The tobacco dependence treatment handbook: A guide to best practices. Guilford Press.



# Section 4: Appendices

# Appendix 1: Quit Plan Template with References

ACES

Adolescent Cessation in Every School

## My Personalized Quit Plan

Name: \_\_\_\_\_

My Quit Date: \_\_\_\_\_

Follow-Up Appointment: \_\_\_\_\_

### Reasons to quit

Examples: *It costs too much, I can't use tobacco in a lot of places*

1.

van Zundert RM, van de Ven MO, Engels RC, Otten R, van den Eijnden RJ. The role of smoking-cessation-specific parenting in adolescent smoking-specific cognitions and readiness to quit. *J Child Psychol Psychiatry*. 2007;48(2):202-209.

2.

3.

4.

Sussman S, Lichtman K, Ritt A, Pallonen UE. Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Subst Use Misuse*. 1999;34(11):1469-1503.

5.

6.

Patten CA, Decker PA, Dornelas EA, et al. Changes in readiness to quit and self-efficacy among adolescents receiving a brief office intervention for smoking cessation. *Psychol Health Med*. 2008;13(3):326-336.

Sussman S, Sun P, Dent CW. A meta-analysis of teen cigarette smoking cessation. *Health Psychol*. 2006;25(5):549-557.

### Triggers

Triggers are situations that prompt you to want to smoke.

Examples: *After a meal, driving, stress, feeling bored, feeling sad*

Trigger 1

Donovan KA. Smoking cessation programs for adolescents. *J Sch Nurs*. 2000;16(4):36-43.  
Krishnan-Sarin S, Duhig AM, McKee SA, et al. Contingency management for smoking cessation in adolescent smokers. *Exp Clin Psychopharmacol*. 2006;14(3):306-310.

Trigger 2

Asfar T, Klesges RC, Sanford SD, et al. Trial design: The St. Jude Children's Research Hospital Cancer Survivors Tobacco Quit Line study. *Contemp Clin Trials*. 2010;31(1):82-91.

Trigger 3

Colby SM, Nargiso J, Tevyaw TO, et al. Enhanced motivational interviewing versus brief advice for adolescent smoking cessation: results from a randomized clinical trial. *Addict Behav*. 2012;37(7):817-823.  
Hwang MS, Yeagley KL, Petosa R. A meta-analysis of adolescent psychosocial smoking prevention programs published between 1978 and 1997 in the United States. *Health Educ Behav*. 2004;31(6):702-719.

Trigger 4

Sussman S, Sun P, Dent CW. A meta-analysis of teen cigarette smoking cessation. *Health Psychol*. 2006;25(5):549-557.  
Curry SJ, Mermelstein RJ, Sporer AK. Therapy for specific problems: youth tobacco cessation. *Annu Rev Psychol*. 2009;60:229-255.

Trigger 5

McDonald P, Colwell B, Backinger CL, Husten C, Maule CO. Better practices for youth tobacco cessation: evidence of review panel. *Am J Health Behav*. 2003;27(Suppl 2):S144-S158.

Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis*. 2002;1(1):35-81.

Trigger 6

Sussman S, Lichtman K, Ritt A, Pallonen UE. Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Subst Use Misuse*. 1999;34(11):1469-1503.

## Things to do instead

---

Examples: Go for a walk, Call a friend who supports your quitting, Hang out in places you're not allowed to use tobacco

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

## Support

---

Who can support me at home?

Who can support me at school?

Who can support me at work?

Which friends will help me the most when I'm quitting?

Which friends will be less helpful when I'm quitting?

Other support strategies 

---

Examples: Nicotine Replacement Therapy patches or gum, Call 1-800-Quit-NOW, Get online support at [www.becomeanex.org](http://www.becomeanex.org)

- 1.
- 2.
- 3.
- 4.

## Rewards of quitting

---

- 1.
- 2.
- 3.
- 4.

Chen HH, Yeh ML. Developing and evaluating a smoking cessation program combined with an Internet-assisted instruction program for adolescents with smoking. *Patient Educ Couns*. 2006;61(3):411-418.

Mermelstein R, Turner L. Web-based support as an adjunct to group-based smoking cessation for adolescents. *Nicotine Tob Res*. 2006;8 (Suppl 1):S69-S76.

Peterson AV, Jr., Kealey KA, Mann SL, et al. Group-randomized trial of a proactive, personalized telephone counseling intervention for adolescent smoking cessation. *J Natl Cancer Inst*. 2009;101(20):1378-1392.

Hurt RD, Croghan GA, Beede SD, Wolter TD, Croghan IT, Patten CA. Nicotine patch therapy in 101 adolescent smokers: efficacy, withdrawal symptom relief, and carbon monoxide and plasma cotinine levels. *Arch Pediatr Adolesc Med*. 2000;154(1):31-

Moolchan ET, Robinson ML, Ernst M, et al. Safety and efficacy of the nicotine patch and gum for the treatment of adolescent tobacco addiction. *Pediatrics*. 2005;115(4):e407-e414.

Scherphof CS, van den Eijnden RJ, Engels RC, Vollebergh WA. Short-term efficacy of nicotine replacement therapy for smoking cessation in adolescents: a randomized controlled trial. *J Subst Abuse Treat*. 2014;46 (2):120-127.

Smith TA, House RF, Jr., Croghan IT, et al. Nicotine patch therapy in adolescent smokers. *Pediatrics*. 1996;98(4 Pt 1):659-667.

Swanson AN, Shoptaw S, Heinzerling KG, et al. Up in smoke? A preliminary open-label trial of nicotine replacement therapy and cognitive behavioral motivational enhancement for smoking cessation among youth in Los Angeles. *Subst Use Misuse*. 2013;48(14):1553-1562.

Cavallo DA, Cooney JL, Duhig AM, et al. Combining cognitive behavioral therapy with contingency management for smoking cessation in adolescent smokers: a preliminary comparison of two different CBT formats. *Am J Addict*. 2007;16(6):468-474.

Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis*. 2002;1(1):35-81.

# Appendix 2: Follow Up Form with References

**ACES**

Adolescent Cessation in Every School

**Name:** \_\_\_\_\_

**Next Appointment:** \_\_\_\_\_

### 1. Please circle all withdrawal symptoms you have experienced in the last 7 days.

Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis.* 2002;1(1):35-81.  
 Klein JD, Camenga DR. Tobacco prevention and cessation in pediatric patients. *Pediatr Rev.* 2004;25(1):17-26.  
 Maharaj K, Ternullo S. Using nicotine replacement therapy in treating nicotine addiction in adolescents. *J Sch Nurs.* 2001;17(5):278-282.  
 Smith TA, House RF, Jr., Croghan IT, et al. Nicotine patch therapy in adolescent smokers. *Pediatrics.* 1996;98(4 Pt 1):659-667.

### 2. Please circle all the triggers you have experienced in the last 7 days.

### 3. Please circle all the coping strategies you have used in the last 7 days.

Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis.* 2002;1(1):35-81.  
 Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis.* 2002;1(1):35-81.  
 Donovan KA. Smoking cessation programs for adolescents. *J Sch Nurs.* 2000;16(4):36-43.  
 Hwang MS, Yeagley KL, Petosa R. A meta-analysis of adolescent psychosocial smoking prevention programs published between 1978 and 1997 in the United States. *Health Educ Behav.* 2004;31(6):702-719.  
 Bailey SR, Hagen SA, Jeffery CJ, et al. A randomized clinical trial of the efficacy of extended smoking cessation treatment for adolescent smokers. *Nicotine Tob Res.* 2013;15(10):1655-1662.  
 Krishnan-Sarin S, Duhig AM, McKee SA, et al. Contingency management for smoking cessation in adolescent smokers. *Exp Clin Psychopharmacol.* 2006;14(3):306-310.  
 Asfar T, Klesges RC, Sanford SD, et al. Trial design: The St. Jude Children's Research Hospital Cancer Survivors Tobacco Quit Line study. *Contemp Clin Trials.* 2010;31(1):82-91.  
 Colby SM, Nargiso J, Tevyaw TO, et al. Enhanced motivational interviewing versus brief advice for adolescent smoking cessation: results from a randomized clinical trial. *Addict Behav.* 2012;37(7):817-823.  
 Curry SJ, Mermelstein RJ, Sporer AK. Therapy for specific problems: youth tobacco cessation. *Annu Rev Psychol.* 2009;60:229-255.  
 McDonald P, Colwell B, Backinger CL, Husten C, Maule CO. Better practices for youth tobacco cessation: evidence of review panel. *Am J Health Behav.* 2003;27(Suppl 2):S144-S158.  
 Sussman S, Lichtman K, Ritt A, Pallonen UE. Effects of thirty-four adolescent tobacco use cessation and prevention trials on regular users of tobacco products. *Subst Use Misuse.* 1999;34(11):1469-1503.  
 Moolchan ET, Robinson ML, Ernst M, et al. Safety and efficacy of the nicotine patch and gum for the treatment of adolescent tobacco addiction. *Pediatrics.* 2005;115(4):e407-e414.  
 Scherphof CS, van den Eijnden RJ, Engels RC, Vollebbergh WA. Short-term efficacy of nicotine replacement therapy for smoking cessation in adolescents: a randomized controlled trial. *J Subst Abuse Treat.* 2014;46(2):120-127.  
 Smith TA, House RF, Jr., Croghan IT, et al. Nicotine patch therapy in adolescent smokers. *Pediatrics.* 1996;98(4 Pt 1):659-667.  
 Swanson AN, Shoptaw S, Heinzerling KG, et al. Up in smoke? A preliminary open-label trial of nicotine replacement therapy and cognitive behavioral motivational enhancement for smoking cessation among youth in Los Angeles. *Subst Use Misuse.* 2013;48(14):1553-1562.

### 4. Please circle any positive changes experienced since you quit or cut back on tobacco.

Sussman S. Effects of sixty six adolescent tobacco use cessation trials and seventeen prospective studies of self-initiated quitting. *Tob Induc Dis.* 2002;1(1):35-81.  
 Krishnan-Sarin S, Duhig AM, McKee SA, et al. Contingency management for smoking cessation in adolescent smokers. *Exp Clin Psychopharmacol.* 2006;14(3):306-310.  
 van Zundert RM, van de Ven MO, Engels RC, Otten R, van den Eijnden RJ. The role of smoking-cessation-specific parenting in adolescent smoking-specific cognitions and readiness to quit. *J Child Psychol Psychiatry.* 2007;48(2):202-209.  
 Cavallo DA, Cooney JL, Duhig AM, et al. Combining cognitive behavioral therapy with contingency management for smoking cessation in adolescent smokers: a preliminary comparison of two different CBT formats. *Am J Addict.* 2007;16(6):468-474.

### 5. Since my quit date I have used tobacco:

Not at all                      1-2 times                      2-5 times                      5 or more times                      Everyday

### 6. How confident are you that you can stay tobacco free? Please circle your current confidence level.

Not at all confident                      Somewhat confident                      Very confident



1                      2                      3                      4                      5                      6                      7                      8                      9                      10







Adolescent Cessation in Every School  
[www.cessationineveryschool.org](http://www.cessationineveryschool.org)