

Best Practices to Improve Tobacco Cessation Success

Tobacco use is changing as new forms of tobacco and new delivery devices gain notoriety. Electronic cigarettes (e-cigarettes) and other tobacco products such as cigarillos, hookahs (or water pipes) and smokeless tobacco are replacing cigarettes as the primary drivers of tobacco use and tobacco exposure for youth and adolescents. The ultimate endgame of ending tobacco use and nicotine addiction is unchanged, but the evidence-based tobacco control strategies and best practices are adapting to meet the challenges of new generations of tobacco products and tobacco users.

Cigarette smoking and other forms of tobacco use have been recognized as health risks for decades. Tobacco remains the leading preventable cause of morbidity and mortality in the United States and worldwide. The prevalence of smoking continues to decline among both men and women in the U.S., but about 14 percent of U.S. adults, more than 30 million individuals, still smoked in 2017. Cigarette smoking alone will claim about 480,000 premature deaths this year alone.

The health picture is grimmer still among adolescents. The 2011 to 2018 National Youth Tobacco Survey found that use of electronic cigarettes by high school students rose by 78 percent from 2017 to 2018 to nearly 21 percent or 3.1 million students. The next most popular tobacco products among high school students were cigars (7.7 percent), cigarettes (7.6 percent), smokeless tobacco (5.5 percent), hookah (3.3 percent), pipe tobacco (0.8 percent) and Bidis (0.7 percent).

e-Cigarettes have become the most popular tobacco product among adolescents in the U.S. Based on existing evidence that nearly 90 percent of tobacco users first try a tobacco product by 18 years of age and adolescent experimentation with tobacco, even on an infrequent basis, is associated with established adult tobacco usage, the growing use of noncombustible tobacco products by adolescents is setting the stage to cause the transition to the use of other tobacco products.

Cigarettes remain the most dangerous form of tobacco to both users and those exposed to the second and third hand effects of tobacco. Some electronic cigarettes, may deliver less nicotine and other toxic compounds per inhalation than conventional cigarettes while at least one manufacturer, JUUL, delivers more nicotine per inhalation than some electronic and conventional cigarettes.

E-cigarette use is soaring, especially by adolescents and young adults, while conventional combustible cigarette use continues to decline. It is also important to note that a single e-cigarette refill container, called a pod by at least one manufacturer, can contain as much nicotine as a pack of 20 conventional cigarettes.

Because e-cigarettes are relatively new, there is less completed research into the short and long term health effects of use, but initial human data as well as longer term animal data show health harms linked to e-cigarette use or exposure. Regardless of industry claims and tobacco user beliefs about the relative safety of different delivery devices, there is no evidence that the use of e-cigarettes or any other form of tobacco is safe.

ENDS come in many shapes, sizes and names. They may look like traditional cigarettes, cigars, pipes, flashlights, flash drives, pens or almost any other shape that manufacturers and marketers believe may appeal to potential users. All contain three basic components, a battery, a vaporizer and a cartridge often containing a flavored solution and nicotine that is inhaled by the user.⁽⁹⁾ The solution is usually flavored, often appealing to children, and contains nicotine. A single cartridge may contain as much nicotine as an entire pack of combustible cigarettes.

E-cigarettes and other non-smoking forms of tobacco may not be covered by regulations or laws that explicitly ban tobacco smoking (1, pg 7). A 2017 survey published in the British Medical Journal found that just 16.7 percent of accredited, degree-granting colleges and universities institution in the U.S. had 100 percent smoke-free or tobacco-free protections on campus (10).

The U.S. Public Health Service published the most widely used tobacco cessation algorithm in 2008. The evidence-based Clinical Practice Guideline for Treatment of Tobacco Use and Dependence, (Am J Prev Med. 2008 Aug; 35(2): 158–176. doi: 10.1016/j.amepre.2008.04.009, table2, cannot access) commonly referred to as the “5 As,” outlines five basic steps:

- Ask every patient about tobacco use
- Advise every tobacco user to quit
- Assess the patient’s willingness and readiness for a quit attempt
- Assist patients with a plan to quit using tobacco
- Arrange follow up appointments or referral to tobacco cessation specialist support as needed

The American College of Cardiology updated the USPHS algorithm based on current tobacco use patterns and delivery products. The 2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment follows a similar five-step format using the latest evidence-based tobacco use assessment and treatment methods. The ECDP is an opt-out (i.e., option to refuse treatment) approach that provides practical clinical guidelines that can be used in both outpatient and inpatient settings to screen patients for tobacco use, help motivate patients to quit and help guide both providers and patients to the most effective treatment options

Current best practices in tobacco cessation recognize important changes in tobacco use, tobacco delivery and tobacco cessation treatment over the past decade.

- While cigarette smoking remains the most dangerous form of tobacco use and the most common form of tobacco used by adults, newer delivery systems such as electronic cigarettes (e-cigarettes) and other devices are more widely used by adolescents and young adults. Programs that ask about “smoking” miss tobacco users who are experimenting with or have become nicotine-dependent from non-combustible delivery systems.
- Tobacco cessation intervention is standard of care for all tobacco users, not an optional approach.
- Multiple pharmacologic agents have been approved by the Food and Drug Administration to treat nicotine dependence, including five nicotine replacement therapy (NRT) agents as well as varenicline and bupropion.
- Behavioral therapy can significantly improve the likelihood of success in quitting tobacco. Useful behavioral skills training includes cognitive behavioral therapy, motivational interviewing, mindfulness and financial incentives to motivate and reinforce behavioral change.
- Combination treatment can be more effective than any single agent. Combining NRT with varenicline or bupropion is more effective than either medication alone. Combining pharmacotherapy with behavioral therapy is more effective than either approach on its own. Current clinical guidance does not recommend medications for adolescent tobacco cessation because of a lack of high-quality studies.
- Reimbursement for tobacco cessation is widely available. The Patient Protection and Affordable Care Act, often shortened to the Affordable Care Act or ACA, requires coverage for smoking cessation. Medicare and Medicaid plans also cover smoking cessation. Cost should not be a barrier to quitting tobacco.
- Exposure to secondhand smoke (SHS) is an acknowledged risk. Health and safety regulations have made many bars, restaurants, offices, schools, shopping malls, transit vehicles and other public spaces smoke-free, but residences, private vehicles and other private spaces are largely unregulated. Spouses, children, other family members, visitors and household workers may still be exposed to toxic tobacco smoke.
- Third hand smoke (THS), the residual nicotine and other combustion products that cling to clothing, carpeting, flooring, furniture, ventilation and heating/air conditioning systems and other surfaces, can be an important contributor to respiratory and other disease in children and other vulnerable individuals. E-cigarettes and other noncombustion delivery devices produce aerosolized mixtures that contain nicotine and other dangerous substances, but research is still lacking to quantify the precise risks of second and third hand exposures.