Local Regulation of E-cigarettes
The Public Health and Tobacco Policy Center is a resource for the New York Department of Health. It is funded by the New York State Department of Health and works with the New York State Tobacco Control Program, the New York Cancer Prevention Program, as well as the programs’ contractors and partners to develop and support policy initiatives that will reduce the incidence of cancer and tobacco-related morbidity and mortality.

This work provides educational materials and research support for policy initiatives. The legal information provided does not constitute and cannot be relied upon as legal advice.
# Table of Contents

**Executive Summary** ........................................................................................................ ii

**E-cigarettes: The Fundamentals** ..................................................................................... 1

  - What Is an E-cigarette? .................................................................................................. 1
  - Where Are E-cigarettes Sold? ....................................................................................... 4
  - Who Uses E-cigarettes? ............................................................................................... 4

**Rationale: Why Regulate E-Cigarettes?** ........................................................................ 6

  - Health Effects ................................................................................................................ 7
  - Marketing ........................................................................................................................ 7
  - Risk to Individual and Population Health ....................................................................... 9
  - Can E-cigarettes be Nicotine-Free? ............................................................................. 10
  - Harm Reduction ............................................................................................................ 11

**Existing Controls** ........................................................................................................ 11

  - Background .................................................................................................................... 11
  - Federal Controls ............................................................................................................ 12
  - New York State Controls .............................................................................................. 14
  - Local Controls ............................................................................................................... 16
  - Approach to Local E-cigarette Regulation .................................................................. 17
  - Model Definition .......................................................................................................... 18

**Conclusion** .................................................................................................................. 19

**Appendices**

A. Glossary: The Many Faces of E-Cigarettes and Components ....................................... 20
B. Key E-Cigarette Sales, Marketing and Use Restrictions Applicable in New York .......... 23
C. Incorporating E-Cigarettes into Existing or Proposed Tobacco Controls ....................... 25
D. Evidence-Based Tobacco Control Policies Available to New York Communities .......... 38
E. Image Credits ................................................................................................................... 45
Executive Summary

Sustained nicotine use and addiction poses serious public health concerns. Nicotine is most commonly delivered through smoking tobacco cigarettes, which are the leading cause of preventable death in the United States. After decades of hard-earned declines in U.S. tobacco use, a new generation is being lured to nicotine use through devices which aerosolize a solution containing the drug. These devices come in many names and forms, are hereinafter referred to as “e-cigarettes,” and warrant comprehensive regulation alongside other tobacco products.

Tobacco marketing, access, and use restrictions have been central to de-normalizing conventional tobacco use, which is a critical tobacco prevention strategy. Indeed, the decline of smoking rates has been one of the greatest public health successes of the last fifty years, drastically reducing smoking-related illness and death. The public policy strategies that underlie this success must extend to all nicotine and tobacco products, including e-cigarettes, to effectively prevent and reduce their use by New York youth.

Available in many forms and referred to by many names, “e-cigarette” is the term typically applied to a category of non-combustible nicotine products and their delivery systems. These products deliver nicotine to users by aerosolizing a nicotine solution. For regulatory purposes, e-cigarettes have been classified as tobacco products.

Public health professionals and policymakers alike are concerned about the impact of e-cigarette availability and use on traditional tobacco product use, particularly by youth. E-cigarette use by adolescents and young adults has rapidly increased: Use among middle and high schoolers doubled between 2011 and 2012 and tripled between 2013 and 2014. Youth e-cigarette use now surpasses youth use of cigarettes; when taken together, combined tobacco use by youth is rising again after decades of decline, due to just a half-dozen years of e-cigarette presence in the U.S. market.

This exponential increase in youth e-cigarette use warrants comprehensive tobacco prevention strategies. At high levels nicotine has acute toxicity and nicotine exposure during adolescence and fetal development may have lasting adverse consequences for brain and cognitive development, can cause addiction, and may lead to sustained tobacco product use. In fact, adolescent e-cigarette use is associated with increased likelihood of cigarette initiation among never smokers and higher levels of cigarette use among youth dual e-cigarette/cigarette users.

E-cigarette marketing is contributing to the rapid rise in youth use. E-cigarette marketing is largely unrestricted, pervasive, and reminiscent of the heyday of unregulated cigarette marketing. In fact, e-cigarette marketers employ strategies similar to traditional cigarette companies — marketing that ultimately proved to obscure the devastating health effects of cigarettes, target youth, and cause our young people to initiate tobacco use.

E-cigarettes differ from other tobacco products on the market in part because they do not contain the tobacco leaf, but rather contain tobacco’s addictive drug, nicotine. Accordingly, e-cigarette manufacturers and consumers have argued that existing tobacco product regulations do not automatically reach their products. As a result, many states and localities have revised tobacco controls to explicitly capture e-cigarettes and similar devices. Federal regulatory
authority over e-cigarettes as a tobacco product was only recently extended, and application of current tobacco regulations to e-cigarettes is limited and still evolving.

Because e-cigarettes are non-combustible, their use was not routinely covered by smoking regulations, which have typically covered only “lit” or “burning” tobacco. Further, because they deliver nicotine without burning tobacco, secondhand exposure to their emissions may be less hazardous than exposure to smoke from combustible cigarettes, a fact that consequently leads to resistance to use regulations among those drawing an incorrect comparison to smoky air rather than clean air. The uncertainty of e-cigarettes’ role as an acceptable alternative to other tobacco products complicates the conversation regarding whether and how they should be regulated.

Fortunately, states and localities may build on their tremendous success reducing tobacco use by continuing to implement proven, comprehensive tobacco controls. Fully incorporating e-cigarettes into new and existing tobacco product regulations, including clean air laws, retailer licensing, and restricted sales of cheap and flavored products, will deter youth use and prevent the addiction of another generation to nicotine. Local, comprehensive tobacco controls can save lives.
E-cigarettes: The Fundamentals

What Is an E-cigarette?

Electronic cigarettes (or “e-cigarettes”) are products designed to deliver nicotine to users through inhalation without combustion (burning). While there are many names and styles for products within this category, their common feature is the ability to aerosolize liquid nicotine other substances, thus distinguishing them from products delivering nicotine through the burning of cut tobacco (e.g., cigarettes, cigars). This distinction is critical since combusted tobacco use is the overwhelming cause of tobacco-related disease and death in the United States.1

For regulatory purposes, e-cigarettes have been classified as tobacco products.2 They entered the U.S. market around 20073 and have quickly become popular among youth, surpassing youth cigarette use in 2014.4 E-cigarette manufacturers voraciously market their products, including through media and methods known to appeal to youth and kids — methods which successfully attracted youth to smoking and which the tobacco industry is now barred from employing in marketing their traditional tobacco products.5

Regulating e-cigarettes is challenging: e-cigarettes are designed and sold under a number of different descriptors, such as e-hookahs, e-cigars, vape pens, personal vaporizers, electronic pipes, mods, and beyond.6 They are currently available in many forms and continue to evolve, sometimes eluding the definitions in policies and other controls aimed at the product category. While some states and local governments have begun to regulate e-cigarette sales7 and use, a standard definition for these devices remains elusive.8 It is therefore important to have a sense of how e-cigarettes work and some of their design variables.

At the most basic level, e-cigarettes and similar devices consist of a power source (such as a disposable or rechargeable battery, with or without variable voltage), a heating element (such as resistance wire, sometimes around wicking material or polyfil, and housed in an “atomizer”), and reservoir (such as a disposable cartridge or refillable tank) for containing a liquid, wax, pod or gel, (“e-liquid”). E-liquid consists of, at a minimum, propylene glycol and/or glycerol and, typically, nicotine and flavorings.9 E-liquid can theoretically be flavor-free and/or nicotine-free; laboratory testing is typically required to determine the presence of nicotine.10 When the user inhales (or otherwise activates the device’s heating element), the e-liquid is heated, aerosolized, and delivered to that user. Appendix A, Glossary, details e-cigarette components.

Neither the quality nor the content of e-cigarette ingredients is currently regulated, resulting in a market of wide product variation and inconsistent user experience.11 Moreover, the inconsistent and variable constituents include an array of carcinogens and toxicants across and within e-liquid brands and expelled aerosol.12
Did You Know?

E-cigarette manufacturers are rapidly changing the design of their products in an effort to better simulate the efficient nicotine delivery of smoking.¹³

The original, single piece disposable (closed) systems store e-liquid in a sealed reservoir (cartridge or tank) not intended to be modified or opened by the user. The sealed reservoir is designed to be discarded after it is emptied.

A rechargeable e-cigarette with a single use (disposable) cartridge is the next product, both evolutionarily and pricewise. These systems integrate the heating mechanism (housed in the “atomizer”) and cartridge, or “cartomizer” in the parlance of e-cigarette consumers. Manufacturers have modified cartomizer mechanisms, improving the nicotine delivery of this closed system product category.

Closed systems sell for a relatively low price,¹⁴ but appear to be less a satisfactory product, and are less likely to be used by more established e-cigarette users.¹⁵

Consumers are increasingly turning to rechargeable open systems with larger tank reservoirs, often refilling these tanks with e-substances customized to their preferred flavor and nicotine level. Cartomizers are now also available in refillable models, yet these devices are more commonly three-piece systems with detachable batteries, atomizers, and tanks.

“Rebuildable” models of open systems are a later development and allow further customization through the size and design of its tank, heating coils and wick, all of which influence e-liquid flow, temperature, and ultimately, the taste and volume of the aerosolized nicotine “hits” delivered by the e-cigarette.¹⁶

Further, rebuildable open systems may be adapted for “dripping,” whereby the user bypasses use of a reservoir and wicking materials and manually leaks e-liquid directly onto the heating coils. This process is facilitated by a drip tip—a mouthpiece that fits over the atomizer (housing the heating source)—that creates a channel through which the e-liquid flows from a manual dropper (think of eye drops) to the heat source.

Open systems are increasingly popular¹⁷ and quickly changing as manufacturers explore new features, especially surrounding power—which, again, influences the taste and volume of the “hit.”¹⁸ Newer devices offer variable voltage (either automatically or manually adjustable, according to user preference) as well as LCD displays and USB ports for updating a device’s internal software.

Most recently, e-cigarettes that utilize nicotine salts have overtaken the market. Nicotine salts are crystallized nicotine blended with other substances such as propylene glycol and flavorants, and they achieve a similar rate of absorption in the bloodstream as nicotine from combusted cigarettes. Popularized by the manufacturer JUUL, which features a sleek design including a removable cartridge (JUUL pod), these e-cigarettes are able to produce a larger and quicker “hit” than e-cigarettes of the past.
### One Piece Disposable E-cigarette

Battery, heating source (atomizer) and cartridge is a single piece.

Entire device is disposed after the sealed cartridge is emptied.

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### Two Piece Rechargeable E-cigarette – open or closed

Rechargeable battery and single use or refillable cartridge; cartridge integrates both the heating source (atomizer) and e-liquid ("cartomizer") which can easily be screwed on, and then off when it needs replacing.

If sealed, cartridge is disposed after its emptied, replaceable cartridge then attaches to a rechargeable battery.

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### Three Piece Refillable, Rechargeable E-cigarette

Separate rechargeable battery, heating source (atomizer) and refillable cartridge.

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### Tabletop vaporizers

Direct method, partial forced air, or full forced-air technique.

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### Rebuildable Tank Atomizers ("RTAs"), where wicking material draws liquid from a reservoir into the heating coil.

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### JUUL E-cigarette

Containing an atomizer, a liquid with nicotine salts, and USB charger

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### Bluetooth technology

Links device to a mobile application, from which the user may access software to adjust voltage or wattage

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Where Are E-cigarettes Sold?

E-cigarettes and similar devices are sold by traditional tobacco retailers, such as tobacconists, gas stations, bodegas, pharmacies, convenience stores, and supermarkets. They are also sold in outlets where the sale of traditional tobacco products is prohibited or not tolerated, such as the internet, shopping mall kiosks, and other mobile retailers. Further, until August 8, 2016, e-cigarette retailers have allowed free product sampling, including in indoor venues such as shopping malls. In fact, e-cigarettes have triggered a new type of business specializing in developing, selling, experimenting with, and socializing over custom e-liquid formulations, used in “open” or refillable systems. These “vape shops” are proliferating throughout the country, especially in college communities. The manner in which e-cigarettes are sold and marketed creates the impression that these products are benign and trendy. Including e-cigarettes in comprehensive tobacco control regulations is a step in correcting that impression.

Gradually, age restrictions have been placed on e-cigarette sales. As of August 8, 2016, federal law prohibits the sale of e-cigarettes to youth under age 18 and, accordingly, non-age verified sales such as those through vending machines. New York State has prohibited e-cigarette sales to youth under age 18 since 2013. New York State does not currently regulate who may sell e-cigarettes, nor does it restrict where the devices may be used. Within New York, the City of Newburgh, and Dutchess, Ulster, and Cayuga counties require all tobacco retailers, including those selling e-cigarettes, to obtain a local tobacco retailer license or permit. New York City requires e-cigarette retailers to register with the city. New York City, and Suffolk, Chautauqua and Albany Counties prohibit sales of e-cigarettes (and other tobacco products) to persons under the age of 21. Additionally, New York City and many New York counties prohibit the use of e-cigarettes and similar aerosol devices everywhere smoking is prohibited.

Who Uses E-cigarettes?

Adults and youth use e-cigarettes and use is on the rise within both populations. However, experimentation (or “ever use”) is far higher among youth and young adults both nationwide and in New York. How each population uses these products, including the significant growth of youth use, may have different implications for tobacco control.

Studies of youth e-cigarette use are not easy to compare and often yield inconsistent findings on specific use patterns. Importantly and notably, research does consistently show that youth experimentation with these devices is dramatically rising. A record three million
U.S. middle and high school students reported using e-cigarettes in 2015, following a three-fold increase between 2013 and 2014 among both middle and high schoolers. In the five years e-cigarette use has been nationally measured (2011-2015), use by middle schoolers has increased nearly nine times over, and use by high schoolers has increased an astonishing ten times over. E-cigarettes are the most commonly used tobacco product among youth both nationally and in New York. The only subgroup that uses another product (cigars) at a higher rate than e-cigarettes is non-Hispanic black high school students. Low socioeconomic status is also a risk factor for adolescent e-cigarette use.

Use: Youth Nicotine Initiation; Adult Smoking Cessation

• E-cigarette experimentation is highest among youth and young adults.

• Youth e-cigarette use is associated with increased intention to smoke and increased cigarette smoking.

• Youth users of aerosol devices are more likely than not to also currently smoke.

• Youth never-smokers are increasingly using e-cigarettes.

• Among adults, current smokers and recent quitters are most likely to use e-cigarettes.

Dual electronic cigarette/traditional cigarette use is common among adolescents who currently use cigarettes and those who were not cigarette smokers previously. In New York, more than half of high school students and young adults who smoke cigarettes also use e-cigarettes or similar devices. The rate is higher nationwide, with three-quarters of current e-cigarette-using youth also identifying as cigarette smokers.

Perhaps most problematic is the rate of adolescent e-cigarette use by those who have never smoked a regular cigarette, suggesting that e-cigarettes are an initiating nicotine product. Between 2011 and 2013, the number of U.S. students who had used e-cigarettes but never smoked tripled to a quarter million, and at least one study found that among adolescent e-cigarette experimenters, most report having never been an established smoker. Nicotine initiation through aerosol devices greatly concerns public health advocates, as youth e-cigarette use is associated with increased intention to smoke and increased cigarette smoking, including among those students who previously were nonsmokers.

Among adults, electronic cigarettes are used by current tobacco users, former tobacco users, those who have never use tobacco, and those trying to quit smoking. They are also used by smokers where smoking is prohibited. Although desire to quit smoking seems to drive e-cigarette use among adults (over age 24), cessation success is unclear, and adult users (like youth users) are commonly poly or dual tobacco users, with e-cigarette/traditional cigarettes the most frequent product combination.

Disturbingly, adult “never smokers” are increasingly trying and using the devices. Smoking status, gender and age are all factors contributing to likelihood of e-cigarette use. More men than women currently use e-cigarettes (4.0 percent compared to 2.8 percent), and adult men experiment with these products at higher rates than adult women. Experimentation is highest among males, young adults (ages 18–24) and those with a history of smoking. Daily use is most typical of...
recent quitters and older adults,\textsuperscript{60} while youth daily e-cigarette use remains low.\textsuperscript{61}

Nationally, electronic cigarette use differs by race, national origin, and geographic region. Adult experimentation and current use is higher among American Indians or Alaska Natives and whites, than among Hispanics, non-Hispanic blacks, and non-Hispanic Asians.\textsuperscript{62} Adults in the Northeastern United States are significantly less likely to report current use than those in other regions.\textsuperscript{63} Adults with a GED are about twice as likely to report current use compared to adults with a high school diploma or higher degree.\textsuperscript{64}

In sum, adults and youth appear to use aerosol nicotine devices differently. Among primary e-cigarette users: 1) White youth and young adults tend to be experimental and intermittent users; and 2) Adult smokers who have recently quit tend to be daily users of e-cigarettes. Less is known about the devices’ impact on longer-term cigarette and other tobacco product use within these populations.

Rationale: Why Regulate E-cigarettes?

Regulating electronic cigarettes is critical to public health. Comprehensive and sustained strategies are warranted to prevent and reduce the use of all tobacco products among U.S. youth. It is critical that tobacco control and prevention strategies for youth address all tobacco products and not just cigarettes. Local tobacco controls are a cornerstone of successful tobacco prevention and can promote public health by lowering the risks posed by these new
and evolving devices and reducing use of all tobacco products.

**Health Effects**

*E-cigarettes contain nicotine, carcinogens, and toxins and until recently have had no oversight. While the scale of harm is unknown, e-cigarettes are not benign.*

The electronic cigarette market has been unregulated until now (August 2016) and it remains undefined. There is a broad range of nicotine aerosol devices in the U.S. market and lack of regulation translates to lack of generalizable information; reports instead rely upon brand-specific studies. Initial surveillance reveals tremendous variability in product design, composition and volume of nicotine solution (e-liquid) and emissions, and manufacturing controls (especially on off-shore sites where many devices originate). Of the products analyzed, studies have concluded there is little quality control and product labels are often inaccurate.

While specifics may vary by product, solvents used in e-cigarettes contain and/or produce carcinogens and toxic substances. Studies have detected various chemical substances and ultrafine particles (known to be toxic, carcinogenic, and/or to cause respiratory and heart distress) in e-cigarette aerosols, cartridges, refill liquids and environmental emissions.

Effective Tobacco Control is Comprehensive Tobacco Control

Regulating e-cigarettes can promote public health by lowering the risks posed by the devices and reducing use of all tobacco products. Local controls are an effective means to minimize youth interest in and access to all tobacco products. While the scale of harm is unknown, it is clear that e-cigarettes are not benign products and regulatory controls to reduce their use, especially by youth, are warranted.

E-cigarettes were developed to deliver nicotine. Nicotine is highly addictive, poses significant health concerns, and is deadly in high doses. Nicotine addiction plays a prominent role in product initiation and in the difficulty of cessation. Nicotine exposure during adolescence and fetal development may have lasting adverse consequences for brain development. Nicotine is associated with potential birth defects, and at high enough-doses, poisonings and even death.

Problematically, numerous studies report that the nicotine levels reflected by e-cigarette and e-liquid labels are often inaccurate. This problem of misrepresentation includes nicotine found in cartridges labeled as containing no nicotine.

**Marketing**

*E-cigarette manufacturers aggressively market their products to youth*

Given the negative health consequences of adolescent nicotine use, the marketing practices of e-cigarette companies are especially problematic. E-cigarettes and similar devices are aggressively and — as evidenced by rising use rates among young people — successfully marketed to youth. Products that appeal to youth are available in palatable flavors and designed, packaged, priced, displayed, advertised, and otherwise marketed in a manner attractive to youth consumers.
E-cigarettes are available in a host of sweet, youth-enticing flavors, even flavors of candy and sugared breakfast cereals marketed to and popular with children. Reminiscent of youth-focused cigarette advertising shown to have caused youth cigarette initiation, e-cigarettes are widely marketed, including through all available media outlets, a heavy retail presence, celebrity endorsements, and an array of sponsorships, price promotions, and name brand merchandise. A 2015 study found that 82 percent of youth and 88 percent of young adults reported seeing e-cigarette advertising in the past year, resulting in high awareness of product marketing, particularly in the retail environment. This high advertising awareness is concurrent with rapidly rising youth e-cigarette use. A separate 2015 study found that teens who saw e-cigarette ads on TV were 43 percent more likely to say they would try the devices than those who did not see the ads.

Similar marketing tactics have been successfully used by the tobacco industry for decades to recruit youth to use combustible and smokeless tobacco products. In fact, tobacco companies marketing activities were found to have been a key factor in leading young people to take up tobacco, keep some users from quitting and increasing consumption among users. These findings paved the way for policy interventions to reduce the influence of marketing on tobacco initiation and consumption, including a legal settlement restricting tobacco advertising and promotion especially appealing to youth. The settlement restricted the very marketing activity in which e-cigarette companies currently engage, namely use of cartoons, sponsorships, outdoor and transit advertising, advertising in media and venues with high youth audience, paid product placement, name brand or logoed merchandise, and free sampling. Unsurprisingly, the three e-cigarette brands owned and marketed by major tobacco companies account for the highest advertising expenditures in 2014 (a total of $102.6 million).
Risk to individual and population health

E-cigarette product technology is rapidly developing and continues to do so during a time of no regulatory oversight. As a result, individual health consequences associated with the use of the devices, either generally or product-specific, remain undefined for the foreseeable future. These individual level health concerns could include hazards associated with regular prolonged exposure to nicotine aerosols.

Public health concerns extend beyond e-cigarette toxicity and the direct harm to individual users to how the product category impacts population health as a whole; for instance, current research is exploring the complex relationships between e-cigarette use and conventional tobacco use. While more research is needed, known population level risks of electronic cigarette use by current conventional tobacco users include prolonged and increased addiction, promotion of poly-tobacco use, decreased and delayed quit attempts, and decreased nicotine abstinence. More specifically, there are significant concerns that e-cigarette use will maintain and strengthen nicotine addiction in current youth and adult tobacco users who continue to also use those other tobacco products. (Dual use of e-cigarettes and cigarettes increases addiction and reduces the likelihood of quitting.)

Known population level risks of e-cigarette use among current non-users of conventional tobacco include: addiction, tobacco and poly tobacco use, relapse, decreased and delayed quit attempts, and decreased nicotine abstinence. Specifically, there are concerns that e-cigarette use may.

- Serve as a gateway to other tobacco product use. Youth and young adults experimenting with e-cigarettes may become addicted to nicotine and many will likely transition to the use of cigarettes and other tobacco products.
- Be used by pregnant women. Pregnant smokers may continue using nicotine by switching to e-cigarettes and risk fetal harm (e.g., low birthweight, premature birth and interference with brain development).
- Interfere with tobacco use prevention. Use of e-cigarettes (including non-nicotine containing products) in public spaces and indoors could renormalize tobacco smoking and reverse the public health gains made by reducing public smoking, a key youth prevention strategy.
- Increase nicotine addiction. Youth and young adults experimenting with the devices will likely become addicted to nicotine.
- Increase smoking relapse rates. Former smokers may return to nicotine use and addiction through e-cigarettes and relapse to cigarettes and tobacco use.
- Expose non-users to environmental toxins. Widespread aerosol device use will likely result in involuntary exposure to undefined and potentially hazardous emissions.
- Result in nicotine poisonings. At high doses, nicotine can be toxic if ingested, absorbed through the skin or inhaled.
Can E-cigarettes be Nicotine-Free?

E-liquids theoretically may be nicotine-free and there are numerous reasons to extend local controls to non-nicotine containing e-liquids and their delivery systems. Devices delivering nicotine-containing solutions look identical to (and indeed may be the very same) devices delivering nicotine-free solutions, and laboratory testing is typically required to confirm whether nicotine is absent. Consequently, nicotine-free delivery systems may interfere with tobacco controls if they are separately regulated.

Nicotine and nicotine free e-cigarettes pose overlapping individual and population health risks

Like nicotine-containing products, nicotine-free e-liquids are not benign and exposure to aerosol emissions is not without consequence. Independent of nicotine, just one week’s exposure to e-cigarette emissions has been found to induce DNA damage suggestive of mutations leading to cancer.\(^{90}\) Separately, nicotine-free solutions have been found to have a damaging effect on lung health.\(^{91}\) Notably, the detected damage is different from the adverse respiratory impact of nicotine-containing solutions.\(^{92}\) While nicotine-free products may lack the highly addictive chemical, it is in fact flavoring compounds that appear to be the primary toxicants within aerosol products.\(^{93}\)

Indefensibly, e-cigarette labels claiming to be nicotine free are commonly found to contain nicotine.\(^{94}\) Inaccurate product labeling and unknown constituents further compound health risks.

Harms to population health posed by nicotine-free e-cigarettes overlap with those posed by nicotine-containing devices. Specifically, their use may renormalize tobacco use and addiction, factors in tobacco initiation and failed cessation. Additionally, they can serve as a gateway to the use of nicotine and combustible tobacco products and involuntarily expose non-users to environmental toxins.

Nicotine content cannot be determined for enforcement purposes.

The nicotine level in an e-cigarette is indiscernible without laboratory testing, and, as discussed above, products pose health risks regardless of nicotine content. Accordingly, subjecting nicotine-free and nicotine-containing products to different regulations poses serious enforcement challenges. Consider such differential treatment: enforcing agents would not be able to determine, for example, whether to enforce an indoor use restriction on an aerosol device without knowing whether the product contained nicotine. Consumers and vendors may be similarly confused.

Time will reveal the impact of long term e-cigarette use, including the impacts on both individual population health. Preliminary evidence suggests long term use of the devices—regardless of nicotine content—will not be harmless and it is thus pragmatic and in the interest of public health to regulate all e-cigarettes as a single category.
Harm Reduction

Some argue that e-cigarettes could be the cessation product that smokers need to finally quit and suggest lenient treatment of the devices to encourage their use over cigarettes. Indeed, in the long term, e-cigarettes and similar devices may prove to have a place in the cessation products market. Public health authorities rather than companies’ marketing dollars should take the lead in shaping that role, however.

The FDA’s Center for Drug Evaluation and Research (CDER) is charged with evaluating and approving claims of a product’s effectiveness in aiding smoking cessation;95 FDA Center for Tobacco Products (CTP) is responsible for evaluating the impact of a new tobacco product on population harm.96 An independent panel has concluded that to date, current evidence is insufficient to recommend e-cigarettes as a class for tobacco cessation among adults,97 and the FDA has not approved any e-cigarettes as cessation aids.98 The FDA continues to collect and weigh evidence regarding the health hazards associated with exposure to e-cigarettes, as well as their impact on tobacco use behavior, such as youth and adult initiation, dual use and cessation, as outlined in the “Rationale” section of this report.

Meanwhile, there is near-universal agreement among public health professionals regarding the importance of continuing efforts aimed at preventing all tobacco use by youth. The responsibility of government is to devise policies that lessen the burden of injury, disease, and disability and, more generally, to promote public health and safety. Public health interventions, including policies aimed at preventing tobacco use, reduce mortality and morbidity, thus saving lives and preventing disease on a population level.99 The Surgeon General has identified strategies effective in preventing and reducing tobacco use, namely, restricting sales, use, and marketing of all tobacco products.100 Due to the established and potential public health harms of e-cigarettes, regulating these products within existing local tobacco controls is a critical and viable approach to reducing the burden of tobacco-related disease and is prudent for public health.

Existing Controls – Federal, State and Local

Comprehensive tobacco controls are a proven strategy for combatting tobacco use. The federal government may regulate tobacco and nicotine products, specifically, manufacture, import, distribution, packaging, labeling, advertising, promotion and sale. State and local governments may contribute to altering the market for tobacco and nicotine products, through implementing policies to prevent use, initiation, and relapse. See Appendix B for more detail.

Background

In 1938 Congress passed the United States Federal Food, Drug and Cosmetic Act (FD&C), a set of laws granting authority to the U.S. Food and Drug Administration (FDA) to oversee the safety of food, drug
Public Health and Tobacco Policy Center

and cosmetics. The FD&C was amended through the Family Smoking Prevention and Tobacco Control Act of 2009, to add tobacco products to FDA’s regulatory authority.

The FDA Center for Drug Evaluation (CDER) (operating under this name since 1987) is charged with duties including the review of drugs and medicals devices prior to their debut on the market, the issuance of approvals or authorizations for marketing, and the continuing regulation of products on the market. Products marketed as a nicotine replacement therapy, smoking cessation aid, or other drug to treat “tobacco addiction” continue to be regulated by CDER.

The FDA Center for Tobacco Products was formed to carry out the 2009 Tobacco Control Act and has broad authority to regulate the manufacturing, distribution, and marketing of “tobacco products.” The Tobacco Control Act defines tobacco products in part as any product “made or derived from tobacco” that is not a “drug,” “device,” or “combination product” under the Food, Drug, and Cosmetic Act.101 Although the Tobacco Control Act granted FDA authority over all tobacco products, only certain tobacco products were within the power of the agency to immediately regulate. Those products included cigarettes, cigarette tobacco, roll-your-own tobacco, and smokeless tobacco products.

Nicotine aerosolizing systems such as e-cigarettes were notably absent from the list of tobacco products over which FDA had regulatory authority (unless manufacturers were making therapeutic claims). Meanwhile, e-cigarette production, marketing and use has increased dramatically over the past several years.

Shortly after passage of the Tobacco Control Act, FDA had attempted to regulate e-cigarette type products as a medical device (outside the scope of Tobacco Control Act). However, the DC Circuit Court ruled in 2010 that since the active ingredient in e-cigarettes is nicotine derived from a tobacco product, e-cigarettes must be regulated under the Tobacco Control Act (Sottera v. Food and Drug Admin., 627 F.3d 891 (2010)). In 2016, the FDA exercised its authority over liquid nicotine and aerosolizing systems by “deeming” e-cigarettes to be tobacco products.

Federal Controls

Definition

In May 2016, the FDA finalized a rule permitting the agency to regulate the manufacture and marketing of tobacco-derived nicotine products such as e-cigarettes and components and parts (i.e., separately sold assembled materials intended for use with or expected to alter or affect the nicotine product).102 Rather than separately defining the category of aerosolizing nicotine products and components, the rule revised its definition of “tobacco product” to capture these systems:

Tobacco product means “any product made or derived from tobacco that is intended for human consumption, including any component, part, or accessory of a tobacco product (except for raw materials other than tobacco
used in manufacturing a component, part, or accessory of a tobacco product” and does not mean “an article that is a drug, . . . , device . . . , or combination product” as those terms are defined in the Federal Food, Drug, and Cosmetic Act.¹⁰³

By virtue of extending to “components and parts,” this definition captures tobacco-derived liquid nicotine whether or not separately sold from the e-cigarette apparatus.¹⁰⁴ (The FDA refers to pure liquid nicotine as “e-liquid” when flavorings, nicotine or other ingredients typical to the commercial product are added to it.)¹⁰⁵ Additional examples of regulated components or parts include cartridges, tanks, programmable software, heating coils, certain batteries and digital displays.¹⁰⁶ See Appendix A for additional components and their definitions.

While “tobacco product” is defined inclusive of any component, part or accessory, accessories of newly regulated e-cigarettes have not been deemed subject to FDA authority.¹⁰⁷ Under the Deeming Rule, “accessories” do not contain tobacco, are not derived from tobacco and do not affect or alter the performance, composition, constituents, or characteristics of a tobacco product.¹⁰⁸ Examples of e-cigarette accessories include carrying cases, lanyards, screwdrivers and holsters.¹⁰⁹

### Nicotine-free liquid: A “component or part”?

E-liquids theoretically may be nicotine-free and therefore tobacco-free. Federal tobacco regulations are limited to tobacco products and will cover nicotine-free liquid only if shown to be a “component or part” of an e-cigarette. That is, federal tobacco regulations apply to nicotine-free liquid that is intended or reasonably expected to be mixed with liquid nicotine,¹¹⁰ consistent with current consumer practice of tailoring e-liquid nicotine and flavor content. It is not yet clear under which, if any, circumstances nicotine-free e-liquid may be sold without expecting some consumers will add nicotine and these products will be evaluated on a case-by-case basis.¹¹¹ Likewise, nicotine-free cartridges used in closed e-cigarette systems (to the extent they exist) may be outside the scope of FDA’s tobacco control regulations. That said, e-liquid mislabeled as “nicotine-free” and shown to contain nicotine is a covered tobacco product subject to FDA regulations, including those pertaining to misbranding.

The rule also states that effective August 8, 2016, e-cigarettes are subject to:¹¹²

- National minimum sales age of 18 and age verification of purchasers under age 27.
- National prohibition on free sampling of e-cigarettes and its components and parts.
- National restriction of e-cigarette sales in a vending machine, unless in an adult-only facility.
Further, the rule asserts that beginning in 2018, e-cigarettes are subject to:  

- Required health warning statement on packaging and advertisements regarding addictiveness of nicotine, displayed consistent with the rule’s font, size, color, spacing and punctuation specifications and reading: “WARNING: This product contains nicotine. Nicotine is an addictive chemical.”

Also beginning in 2018, vape shop operators that mix or prepare liquid nicotine, or create or modify any type of e-cigarettes, are considered tobacco product manufacturers and must comply with all of the legal requirements for tobacco product manufacturers. These requirements include registering their establishment and providing product listings and ingredients to the FDA, placing health warnings (once required) on product packages and not making health claims or selling modified risk products (including those described as “light,” “low,” or “mild” unless authorized by the FDA.

### Liquid Nicotine Packaging

The federal Child Nicotine Poisoning Prevention Act requires liquid nicotine to be sold in child-resistant packages. This January 2016 law expands to “open system” liquid nicotine containers the existing Consumer Product Safety Commission’s packaging rules aimed at preventing children’s accidental poisonings by toxic household substances. The law applies to containers for “any form of chemical nicotine, including any salt or complex, regardless of whether the chemical is naturally or synthetically derived.” Affected businesses have until July 25, 2016 to comply with the new rule.

### New York State Controls

#### Definition

New York State has developed a definition of electronic delivery systems:

"Electronic cigarette" or "e-cigarette" means an electronic device that delivers vapor which is inhaled by an individual user, and shall include any refill, cartridge and any other component of such a device.

In contrast to federal regulations of e-cigarettes, state and local governments are not constrained to separately regulating tobacco and tobacco-free products. In fact, New York’s definition does not require the presence of nicotine (or tobacco or tobacco-derived substances) and is therefore broader than the proposed federal definition.

Consequently, New York’s definition provides more latitude for development of e-cigarette controls. As discussed in this report’s “Rationale,” “Existing Controls” and “Model Definition,” local New York governments are likewise unconstrained and will do well to adopt a broader definition of the regulated product, allowing controls to reach non-nicotine containing systems.
Youth Access

Sales age

New York State restricts tobacco sales, including e-cigarettes and liquid nicotine, to consumers 18 years and older and, generally, requires that sales are face-to-face and not through self-service displays or vending machines. Purchasers must demonstrate their age by presenting a valid driver's license or other state or federally-issued identification. These restrictions have applied to e-cigarettes since 2013 and to nicotine liquid since 2015. Prior to these restrictions, e-cigarettes were not subject to any youth access controls in New York.

Signage

To make the legal sales age known to consumers, tobacco sellers must post a sign at least one half inch high using red lettering on a white background in a conspicuous place that says:

"SALE OF CIGARETTES, CIGARS, CHEWING TOBACCO, POWDERED TOBACCO, SHISHA OR OTHER TOBACCO PRODUCTS, HERBAL CIGARETTES, LIQUID NICOTINE, ELECTRONIC CIGARETTES, ROLLING PAPERS OR SMOKING PARAPHERNALIA, TO PERSONS UNDER EIGHTEEN YEARS OF AGE IS PROHIBITED BY LAW."\(^{122}\)

Product Placement/Display

At the point of sale, all tobacco products, including e-cigarettes, must be stored for sale behind a counter in an area accessible only to store staff or in a locked container.\(^{123}\)

E-liquid Packaging Restrictions

New York State defines liquid nicotine (or electronic liquid or e-liquid) to mean "a liquid composed of nicotine and other chemicals, and which is sold as a product that may be used in an electronic cigarette."\(^{124}\)

The nicotine in e-liquids used for refilling some open systems is toxic and can cause harm or even death if directly ingested. Sadly, in December of 2014, a child in upstate New York died after accidentally swallowing e-liquid. Within a month, New York State enacted a law requiring child-resistant packaging for e-liquid sold in New York State. In June 2015, New York State Attorney General Schneiderman reached a settlement with four businesses that failed to adhere to the new packaging law.\(^{127}\)

Consumer Protection

Like other merchants, sellers of e-cigarettes are prohibited from engaging in deceptive sales practices in New York. Labeling or advertising that includes material misrepresentations violates the state’s Consumer Protection from Deceptive Acts and Practices law. The law also prohibits false advertising and deceptive labeling. Consumer complaints for such violations are handled by the Department of State Division of Consumer Protection which provides a telephone hotline and consumer complaint form on its website.\(^{130}\)

E-cigarettes in Clean Air Laws (pending)

New York legislators have repeatedly entertained bills seeking to include e-cigarette use in the state's clean air law and legislation is pending at the time of publication. While efforts to expand these controls state-wide will continue, there is no guarantee that restrictions on the use of e-cigarettes will be imposed at the state level.
Local Controls

New York local governments have broad authority to regulate tobacco use and sales. The Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act) specifically recognizes state and local authority to regulate tobacco sales and use;133 this includes the sale and use of e-cigarettes.134 Additionally, unlike some states, New York State grants local jurisdictions broad authority to adopt public health laws and regulations.135 Thus, in general, New York local governments can pass laws to either complement or fill the gaps in state level controls of e-cigarettes. This local authority is fortunate for New York communities, as local change often is less cumbersome than federal- or state-level change. Federal and state policy change can be a very deliberative, slow process and, by definition, is not tailored to local needs. At the local level, there are fewer constituents and decisionmakers to educate on the issues and potential resolutions, and it is perhaps less likely that the major tobacco companies will oppose a measure with heavily-funded campaigns. Additionally, local level controls can be tailored to fit community needs, tolerance, and capabilities, which may significantly differ across municipalities. It is important for municipalities to take advantage of their relative nimbleness and more quickly implement evidence-based policies addressing public health issues. In fact, promising tobacco controls often are first introduced at the local level.136

Further, local tobacco controls may address nicotine-free e-liquids, as well as where e-cigarettes may be used. Despite broad authority to regulate tobacco and tobacco-derived products, the FDA lacks the authority to regulate where tobacco products may be used (e.g., in workplaces, schools, or public spaces).137 Authority to control where people are permitted to use e-cigarettes—nicotine-containing or not—and other tobacco products is left to state and local authorities, which may generally adopt regulations that are stricter than those of the Family Smoking Prevention and Tobacco Control Act.138

Examples of local progress on e-cigarette regulation can be found right in New York State. New York City expanded its 2002 clean air regulations to include a prohibition on the use of e-cigarettes in all enclosed public areas within public spaces including businesses such as restaurants and bars.139 In addition, Albany, Cattaraugus, Suffolk, Tompkins, Putnam, Erie, and Westchester Counties and the City of Buffalo140 have also prohibited use of e-cigarettes wherever smoking is prohibited. Several other county and local governments have included or are considering including e-cigarettes use in existing clean indoor and outdoor air laws.141

In addition to regulating the use of e-cigarettes, local laws can also control how e-cigarettes are sold. Including e-cigarette retailers in tobacco retail licensing requirements, for example, provides enhanced local enforcement capabilities. New York City,142 the City of Newburgh,143 and Dutchess,144 Ulster145 and Cayuga146 counties are New York examples of
communities that require local licensing or registration for e-cigarette retailers. Additionally, New York City and Suffolk, Chautauqua and Albany Counties restrict sales of all tobacco products, including e-cigarettes, to persons aged 21 years and older.\textsuperscript{147}

As with any local ordinance, the municipal or county government will need to carefully consider which agency will oversee implementation and enforcement, and how the law will be funded. The answers to these questions will usually depend on the specifics of the ordinance (e.g., is it a tobacco product use or licensing requirement?) and the particulars of the locality taking action.

**Approach to Local E-Cigarette Regulation**

State and local tobacco control programs have been essential to reducing tobacco use across the country.\textsuperscript{148} New York State’s comprehensive tobacco control program in particular has been recognized as one of the most successful programs in the country.\textsuperscript{149} However, nationwide and in New York, the emergence of e-cigarettes has reversed steady declines in youth tobacco use. As discussed above, the Tobacco Control Act firmly establishes a role for local governments in reducing tobacco consumption. This extends to e-cigarettes. Local control of all nicotine and tobacco products, including e-cigarettes, offers a comprehensive solution to a far-reaching problem and thus fits within proven, recommended tobacco control strategies.\textsuperscript{150}

New York localities have numerous proven tobacco control measures at their disposal, all of which may be made applicable to e-cigarettes. Effective and permissible local tobacco controls include restricting where tobacco may be used (such as inside workplaces, schools, public places and transportation) and restricting where and how tobacco sales are made, the latter effectively implemented and enforced through local retail licensing.\textsuperscript{151} Sales restrictions are accomplished through restricting the number, type, and location of tobacco retailers, and/or restricting sales of discounted tobacco products or tobacco products especially attractive to youth. Local retail licensing is an efficient and effective mechanism by which to implement and enforce local sales restrictions. These sales restrictions reduce the presence of local tobacco outlets in a community, along with community members’ exposure to the accompanying, substantial tobacco marketing. These policies may be most efficiently implemented through a licensing regime. Further, effective tobacco control is comprehensive tobacco control: implementing use and sales policies inclusive of all tobacco products will successfully reduce youth initiation of e-cigarettes and other tobacco products and, accordingly, the health burden of tobacco use in New York.
A community’s political climate and policy needs will determine its policy approach. Appendix D contains a brief description of existing and evidence-based tobacco controls available in New York, and a description of how each may be successfully applied to e-cigarettes to improve public health. Readers may find in-depth discussions of and details about these evidence-based tobacco control policies in our other publications located at www.tobaccopolicycenter.org. Additionally, model definitions are provided below and Appendix C provides a template for incorporating these definitions into a policy restricting use.

**Model Definition**

New York State and municipalities are not constrained to separately regulating tobacco-derived and tobacco or nicotine-free products. In fact, New York State’s current definition of e-cigarette does not require the presence of nicotine (or tobacco/tobacco-derived substances). For reasons outlined in the “Rationale” of this report, New York municipalities will likewise benefit from reaching nicotine-free systems in its tobacco controls. Accordingly, this model defines the regulated product to capture nicotine-containing and nicotine-free systems and therefore applies the term “Electronic Aerosol Delivery System.” This term lacks descriptors “nicotine” and “cigarette” in order to be consistent with the product category the regulation targets.

**Electronic Aerosol Delivery System** means an electronic device that, when activated, produces an aerosol that may be inhaled, whether or not such aerosol contains nicotine. Electronic Aerosol Delivery System includes any Component or Part but not Accessory, and any liquid or other substance to be aerosolized, whether or not separately sold. Electronic Aerosol Delivery System does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act.

**Tobacco Product** means any product made or derived from tobacco or which contains nicotine, marketed or sold for human consumption, whether consumption occurs through inhalation, or oral or dermal absorption. Tobacco Product includes any Component or Part, but not Accessory. Tobacco Product does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act.

Note that the definition of Electronic Nicotine Delivery System covers products that aerosolize most substances, whether or not that substance is tobacco-derived or contains nicotine. In contrast, Tobacco Product is defined to capture products made or derived from the tobacco leaf, or products that contain nicotine (regardless of the origin of that nicotine).
These products and definitions fit into both sales regulations (such as regulation of the number, location or type of tobacco outlets; outlets’ redemption of price promotions), and use regulations (such as tobacco-free policies in housing, or indoor or outdoor areas). Further, these terms are easily incorporated into an existing or proposed policy. Appendix C provides a model for incorporating these definitions into a policy restricting use.

Conclusion

E-cigarettes are an addictive tobacco product replete with harmful constituents and especially dangerous for youth. Irrespective of nicotine, flavoring compounds typically found in e-liquid and especially favored by youth are toxic and injurious to health. E-cigarettes have no sanctioned medicinal or therapeutic use.

E-cigarettes are heavily marketed and increasingly appealing to youth. Youth e-cigarette use rates have soared in recent years and is responsible for the marked reversal in the decade–plus decline in tobacco use. Youth e-cigarette use over time may contribute to an increase in combustible tobacco use and addiction.

The FDA has recently deemed e-cigarettes a tobacco product, subjecting these products to certain federal tobacco controls. Likewise, extending local restrictions on tobacco sales and use to e-cigarettes is a logical step for communities seeking to prevent youth from becoming addicted to nicotine. Given the innate harmfulness of e-cigarettes, proliferating youth use, and evidence of e-cigarette use interfering with tobacco cessation and abstinence, e-cigarettes should be regulated alongside conventional tobacco products. Tobacco controls currently encompass a range of tobacco products representing a range of health hazards; parsing the hazards to youth posed by e-cigarettes versus those of other tobacco products invalidly implies e-cigarettes pose an acceptable level of risk to public health.

Not only is local regulation of e-cigarettes a logical public health measure, it is also feasible. After clearly identifying and defining the product to regulate, existing regulations may be applied to this newly defined product category. Similarly, new regulations may incorporate product definitions and be drafted to apply to both tobacco products and e-cigarettes (as defined) from the outset.
Appendix A. Glossary: The Many Faces of E-Cigarettes and Components

There are many terms for electronic cigarettes, including e-pen, vape, cig-alike, e-hookah, and Electronic Nicotine Delivery Systems (ENDS). All terms refer to electronic devices designed to aerosolize a nicotine or nicotine-free substance (most commonly liquid) for recreational purposes. Yet these products employ varied mechanisms to activate the device, furnish heat, connect the heat source with the e-liquid, store the e-liquid, adjust the rate of flow of e-liquid, program or adjust the voltage, wattage and more. These differing mechanisms depend upon varied components and parts and together impact the aerosolization process, producing aerosols of varying volume, taste and temperature, and also influence the efficiency and duration of aerosolization. Importantly, the structure of an e-cigarette product affects emissions levels (impacting both the user and bystanders) and levels of nicotine and other chemicals transferred to the user.155

Regulating e-cigarettes can be tricky if not carefully considered. E-cigarettes are rapidly evolving and increasingly comprise more components and parts. Consequently, there is growth in the marketing and presence of these components and a corresponding need to understand their impact on an electronic nicotine delivery system. Both the model policy in Appendix C and the federal government contemplate regulating these components as a “tobacco product.”

Components and parts of refillable aerosol products

Atomizer: The assembled heating element of an e-cigarette, typically consisting of metal wire wrapped around a core then contained in a metal housing that screws into the battery. Located between the battery and e-liquid reservoir, when electricity from the battery is applied, the resulting heat aerosolizes e-liquid in direct contact with the element. Atomizer can equally apply to the heat source housing in a clearomizer, glassomizer, cartomizer, as well as the actual coils in those devices.

Cartomizer: A combined cartridge plus atomizer; refillable or disposable fluid-filled cartridge also containing the heating unit and directly connects to the battery. May contain polyfill or wicks to direct the e-liquid to the heat source.

There are several types of cartomizers:

- **dual or multiple coil**: two or more heating coils producing stronger heat and thus more aerosol per hit.

- **gravity feeding bottom coil**: uses gravity to deliver e-liquid to the heating coil located at the bottom of the unit. Typically, the heating coil is isolated at the bottom by a chamber with a wick poking through that connects to the e-liquid tank.

- **polyfill**: cartomizer contains polyfill wrapped around a heating coil. The polyfill soaks the e-liquid, holding the liquid inside allowing for longer use before it is necessary to add more e-liquid

- **wick feeding top coil**: two wicks that lead to a horizontal heating coil at the top of the cartomizer.

Cartridge: Reservoir for storing e-liquid; may be prefilled disposable or refillable. Connects to the atomizer which connects to the battery.

Electrical sources: Different models of e-cigarettes utilize different power source; most
typical are disposable or rechargeable batteries, USB ports, and wall chargers.

**Hollow Drip Tip**: Used to add drops of e-liquid directly onto an e-cigarette atomizer or heating coil, creating a channel through which the e-liquid flows from the dropper (think eye/nose medicine) to the heat source (known as “dripping”).

**Mods**: Short for “modification” and refers to homemade or purchased alterations to an e-cigarette to improve battery life or aerosol production. Alterations may be made to the battery, atomizer or cartridge.

Mods also refer to tubes holding rechargeable batteries, to which the user can attach an atomizer, cartomizer, clearomizer, or glassomizer.

**Tank cartomizer**: Acts like a polyfill cartomizer, but with a larger reservoir to hold more e-liquid. In this model, the cartomizer is submerged into acyclic tubing and liquid from the connected reservoir seeps through an opening into the cartomizer to keep the polyfill wet.

**Tanks or Reservoirs**

- **Clearomizer**: Clearomizers are plastic tanks holding e-liquid that attach to atomizers. The tanks are transparent and a user can see the level of remaining e-liquid inside the container. The e-liquid may be delivered to the cartomizer from the clearomizer via a silica wick.

- **Glassomizer**: Glassomizers are tanks made from pyrex glass holding e-liquid that attach to atomizers. The tanks are transparent and a user can see the level of remaining e-liquid inside the container. The e-liquid may be delivered to the cartomizer from the glassomizer via a silica wick.

**Variable/adjustable e-cigarettes**: E-cigarettes offering adjustable electrical current, resistance, voltage, and/or wattage (power), often through programmable software accessed through wifi- or blue tooth.
## Appendix B. Key E-cigarette Sales, Marketing and Use Restrictions Applicable in New York State

<table>
<thead>
<tr>
<th></th>
<th>Federal</th>
<th>New York State</th>
<th>New York Local</th>
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<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Any product made or derived from tobacco that is intended for human consumption, including any component, part, or accessory of a tobacco product (except for raw materials other than tobacco used in manufacturing a component, part, or accessory of a tobacco product). 21 U.S.C. 321(rr). § 201(rr) of the Food, Drug, and Cosmetic Act.</td>
<td>&quot;Electronic cigarette&quot; or &quot;e-cigarette&quot; means an electronic device that delivers vapor which is inhaled by an individual user, and shall include any refill, cartridge and any other component of such a device. N.Y. Public Health Law § 1399-aa(13)</td>
<td>Various For example: • Dutchess County Sanitary Code § 25.2(H) • New York, N.Y. Admin Code §17-502 • New York, N.Y. Admin Code § 17-702 • Suffolk Cty., N.Y. §792-22 • Cattaraugus Cty., N.Y. Local Law 16-2011 § 2(a)</td>
</tr>
<tr>
<td><strong>Minimum sales age</strong></td>
<td>Age 18 Family Smoking Prevention and Tobacco Control Act</td>
<td></td>
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<td></td>
<td>Age 18 New York Public Health Law § 1399-cc</td>
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<td><strong>Child resistant packaging for liquid nicotine</strong></td>
<td>Yes Public Law No: 114-116 (effective July 26, 2016)</td>
<td>Yes New York Gen. Bus. Law § 399-g</td>
<td></td>
</tr>
<tr>
<td><strong>Sampling prohibition</strong></td>
<td>Yes Family Smoking Prevention and Tobacco Control Act Sec. 102-g</td>
<td>No</td>
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<tr>
<td><strong>Vending machine sales restriction</strong></td>
<td>Restricted to adult only facilities Family Smoking Prevention and Tobacco Control Act</td>
<td>Restricted to adult only facilities New York Public Health Law § 1399-dd</td>
<td></td>
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<tr>
<td><strong>Health Warnings (ads)</strong></td>
<td>Anticipated August 8, 2018 21 C.F.R. §1143.3(a); 81 Fed. Reg. 28974-01 IV(B)(4)</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Health Warnings (packaging)</strong></td>
<td>Anticipated August 8, 2018 21 C.F.R. §1143.3(b); 81 Fed. Reg. 28974-01 IV(B)(4)</td>
<td>n/a</td>
<td>n/a</td>
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<td><strong>Indoor air use restrictions</strong></td>
<td>No</td>
<td>No</td>
<td>Prohibited use of e-cigarettes wherever smoking is prohibited: Albany County, Cattaraugus County, Suffolk County, Tompkins County, Westchester County, Putnam County and the City of Buffalo, LynnbrookSM Erie County, New York City (check ANR for updates)</td>
</tr>
<tr>
<td><strong>Outdoor air use restrictions</strong></td>
<td>No</td>
<td>No.</td>
<td>prohibit use on county-owned property: Albany, Greene, Oneida, Ontario, Schuyler and Ulster</td>
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| License, permit or registration | No (not yet) | NYC, Admin. Code § 17-513.3  
City of Newburgh, Annual license Admin. Code § 276-2  
Dutchess County, Biennial Permit Sanitary Code § 25.3  
Ulster County, Annual License Local Law 6 of 2015  
Cayuga County, Biennial License, Local Law 5 of 2013 |
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<tr>
<td>False (health) claims prohibited</td>
<td>Yes Family Smoking Prevention and Tobacco Control Act Sec. 903</td>
<td>Yes N.Y. Gen. Bus. Law §350 (false advertising)</td>
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<tr>
<td></td>
<td>Yes</td>
<td>No</td>
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</table>
Appendix C. Incorporating E-cigarettes into Existing or Proposed Tobacco Controls

The Public Health and Tobacco Policy Center has developed an example policy regulating indoor and outdoor e-cigarette use. This model illustrates just one way e-cigarettes may be incorporated into existing and proposed tobacco control policies. For instance, the model may be adapted to a multi-unit housing use policy, and a policy restricting sales, whether through tobacco retailer licensing or other means of restricting the number, type, location of retailers, the product they sell (e.g., flavored tobacco), or the consumer to whom they sell (e.g., under age 21). Our model is mindful of the considerations presented in our technical report, *Local Regulation of E-cigarettes* and consistent with our overall policy recommendations to:

- Incorporate e-cigarettes into new or existing restrictions on **tobacco product use** (e.g., tobacco free outdoor and indoor policies; private and public policies);
- Incorporate e-cigarettes into new or existing restrictions on **sales of tobacco products** (e.g., tobacco retailer licensing requirements; restrictions on number, type, location of tobacco sales; restrictions on retail redemption of tobacco product price promotions);
- Separately define “Tobacco Product” and e-cigarette; refer to the product as “e-cigarette” for general purposes and “Electronic Aerosol Delivery System” for more precise regulatory purposes;
  - Use the term “e-cigarette” in a policy’s Title and Findings (Section I of our model); clearly define and rename the term in the Definition section, and thereafter in the policy, refer to the product by its defined name, “Electronic Aerosol Delivery System;”
- Define “Tobacco Product” and “Electronic Aerosol Delivery System” in a manner appropriate for both **sales regulations** (such as tobacco retail licensing, and regulation of the number, location or type of outlets permitted to sell tobacco products), and **use regulations** (such as clean indoor air or tobacco-free housing policies) so they may be easily incorporated into an existing or proposed policy;
  - Define “Tobacco Product” to include all products derived from tobacco (whether or not they contain tobacco leaf), as well as those containing nicotine (whether natural or synthetic);
    - **Tobacco Product** means any product made or derived from tobacco or which contains nicotine, marketed or sold for human consumption, whether consumption occurs through inhalation, or oral or dermal absorption. Tobacco Product includes any Component or Part, but not Accessory. Tobacco Product does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act;
Define “Electronic Aerosol Delivery System” to include both nicotine-containing and nicotine-free products;

- **Electronic Aerosol Delivery System** means an electronic device that, when activated, produces an aerosol that may be inhaled, whether or not such aerosol contains nicotine. Electronic Aerosol Delivery System includes any Component or Part but not Accessory, and any liquid or other substance to be aerosolized, whether or not separately sold. Electronic Aerosol Delivery System does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act.

Use of these terms should require minimal language changes to an existing local law. Anticipated amendments are illustrated in our model use ordinance through underlining added language and [bracketing] deleted language. **[Bolded, bracketed]** language indicates decision points for local governments.
New York Model Ordinance to Prohibit Tobacco and E-cigarette Use in Specified Indoor and Outdoor Areas

Section 1: Findings

The [Common Council] of [City] hereby finds and declares as follows:

Tobacco use causes death and disease and continues to be an urgent public health challenge:

- Tobacco-related illness is the leading cause of preventable death in the United States,\textsuperscript{157} accounting for about 480,000 deaths each year;\textsuperscript{158}
- Smoking kills 28,200 New York adults each year;\textsuperscript{159}
- Each day in the United States, more than 3,200 youth smoke their first cigarette, and another 2,100 youth and young adults become daily smokers;\textsuperscript{160}
- Annually in New York, 10,600 youth become new daily smokers\textsuperscript{161} and an estimated 280,000 New York youth now alive will die early from smoking;\textsuperscript{162}
- Tobacco use can cause chronic lung disease, diabetes, eye disease, rheumatoid arthritis, coronary heart disease, stroke, ectopic pregnancy, and infertility, in addition to leukemia and cancer of the lungs, larynx, colon, liver, esophagus, pancreas, kidney, cervix, bladder, stomach and mouth;\textsuperscript{163}
- More than half a million New Yorkers live with serious smoking-caused illness and disability;\textsuperscript{164}
- Tobacco-related health care annually costs New Yorkers $10.4 billion, including $3.3 billion in Medicaid expenses;\textsuperscript{165} and
- Annual smoking-attributable economic costs in the United States for the years 2009-2012 were between $289-332.5 billion.\textsuperscript{166}

E-cigarettes and similar devices may contribute to youth smoking and reduced cessation:

- E-cigarettes are designed to deliver nicotine, a highly addictive drug;\textsuperscript{167}
- Nicotine-containing e-cigarettes are the most common nicotine products used by students with 3 million middle and high school students using them in 2015;\textsuperscript{168}
- Youth use of e-cigarettes and similar products is associated with future cigarette use;\textsuperscript{169}
- Adults who might otherwise quit use e-cigarettes in addition to cigarettes\textsuperscript{170} thereby potentially increasing nicotine intake and addiction level;
- E-cigarettes are often marketed for use when traditional smoking is prohibited, thereby maintaining addiction;\textsuperscript{171}
- E-cigarettes are not a proven cessation device, nor has the U.S. Food and Drug Administration (FDA) approved them as such;
- In fact, the FDA has recently extended its regulatory authority over e-cigarettes, in part because of the health risks of adolescent nicotine exposure and the agency’s concern that youth are initiating tobacco use with e-cigarettes.\textsuperscript{172}
E-cigarettes and similar devices pose health hazards and may contribute to youth smoking and reduced cessation, regardless of nicotine content:

- E-cigarettes and similar devices contain or produce chemicals other than nicotine known to be toxic, carcinogenic and causative of respiratory and heart distress;\(^\text{173}\)
- E-cigarette manufacturers are aggressively and successfully marketing to youth, using the same tactics now unavailable to cigarette and other tobacco manufacturers precisely because they were found to recruit youth;\(^\text{174}\)
- E-cigarettes, whether or not they contain nicotine, renormalize tobacco addiction and use of tobacco products, like combustible cigarettes;
- Nicotine-free e-cigarettes look identical to nicotine-containing e-cigarettes, posing challenges to enforcement officials, so their use must be similarly restricted;
- Normalization undermines tobacco control efforts and may contribute to smoking initiation and reduced cessation;
- Some e-cigarettes labeled as “nicotine free” contain nicotine,\(^\text{175}\) and thus may more directly contribute to addiction.

E-cigarette use in public indoor and outdoor spaces undermines tobacco control progress, and threatens public health:

- E-cigarette emissions may contain particulate matter, harmful to those exposed\(^\text{176}\) and bystanders involuntarily exposed may be harmed;\(^\text{177}\)
- The FDA has presented evidence of nicotine and other toxicants in exhaled e-cigarette aerosol and stated exposure should be limited;\(^\text{178}\)
- Use of nicotine-containing or nicotine-free e-cigarettes may harm public health by creating visual cues and renormalizing nicotine or tobacco addiction and confusing youth and enforcement agents;
- The FDA has expressed concern that use of e-cigarettes will provide visual cues to youth and will renormalize cigarette smoking and addiction; recognizing this potential impact on public health, the agency recently extended its authority to regulate e-cigarettes as tobacco products.\(^\text{179}\)

Smokeless tobacco is not a safe alternative to smoking and also causes death and disease:

- Smokeless tobacco products are known to cause lung, larynx, esophageal, and oral and pancreatic cancers;\(^\text{180}\)
- Smokeless tobacco spit is contains carcinogenic chemicals,\(^\text{181}\) creates unwanted waste which are often improperly disposed;
- A dip of smokeless tobacco typically contains 3-5 times more nicotine than a cigarette.\(^\text{182}\) Research shows that smokers have difficulty switching from cigarettes to smokeless tobacco. Instead, many become dual users of both cigarettes and smokeless products\(^\text{183}\) – increasing the addiction;
- The regular use of snuff doubles the user’s risk of cardiovascular disease and death;\(^\text{184}\)
- Adolescent smokeless tobacco users are more likely than nonusers to become adult cigarette smokers.\(^\text{185}\)
Secondhand smoke has been repeatedly identified as a health hazard:

- The U.S. Surgeon General concluded that there is no risk-free level of exposure to secondhand smoke;\(^{186}\)
- Secondhand smoke exposure causes as many as 300,000 children in the United States to suffer from lower respiratory tract infections, such as pneumonia and bronchitis, exacerbates childhood asthma, and increases the risk of acute, chronic, middle ear infection in children;\(^{187}\)
- The Surgeon General concludes that even brief exposures to secondhand smoke may increase the severity of asthma and lower respiratory infections, especially in children, and have adverse effects on the heart;\(^{188}\)
- Secondhand smoke exposure can cause cancer, respiratory, and cardiovascular disease;\(^{189}\)
- Secondhand smoke is responsible for approximately 3,000 deaths among nonsmokers each year in New York;\(^{190}\)
- One in four nonsmokers (including nearly half of Black nonsmokers) in the United States are still exposed to secondhand smoke;\(^{191}\)
- Two in every five children (including 7 of every 10 Black children) are exposed to secondhand smoke;\(^{192}\)
- More than two in five nonsmokers living in poverty are exposed to secondhand smoke;\(^{193}\)
- Secondhand smoke is responsible for approximately 42,000 deaths among nonsmokers each year in the United States;\(^{194}\) and
- Secondhand smoke exposure annually costs $5.6 billion in lost productivity in the United States.\(^ {195}\)

Exposure to secondhand smoke anywhere has negative health impacts, and exposure to secondhand smoke occurs at significant levels outdoors:

- Irritation from secondhand smoke begins at levels as low as 4 micrograms per cubic meter, and in some outdoor situations this level can be found as far away as 13 feet from a burning cigarette;\(^{196}\)
- To be completely free from exposure to secondhand smoke in outdoor places, a person may have to move nearly 25 feet away from the source of the smoke, about the width of a two lane road;\(^{197}\) and
- At typical outdoor locations, persons may be exposed to tobacco smoke levels as high as indoor secondhand smoke concentrations.\(^ {198}\)

Cigarette butts are a major and persistent source of litter:

- Over 2 billion cigarette butts are discarded every day worldwide, and Americans alone discard more than 175 million pounds of cigarette butts every year;\(^{199}\)
- Cigarette filters have been found in the stomachs of fish, birds, and other animals that mistake them for food, thus swallowing harmful plastic and toxic chemicals;\(^ {200}\)
- Cigarette filters and plastic wraps from cigarette packages are not biodegradable and tobacco-related waste discarded in parks, along sidewalks, and in street gutters makes its way through storm drains into creeks and rivers, leaking dangerous chemicals into our watershed.
Cigarette butts and liquid nicotine pose a health threat to young children:

- In 2013, American poison control centers received over 8,500 reports of children under age 13 poisoned by cigarettes, cigarette butts, and other tobacco products;\(^{201}\)
- Children poisoned by cigarette butts or liquid nicotine used with e-cigarette can experience vomiting, nausea, lethargy, eye irritation and gagging;\(^{202}\) and
- Calls to American poison control centers concerning liquid nicotine exposures increased from one in February 2010 to 215 in February 2014, most of which involved children under age five years.\(^{203}\)

Children are currently unprotected from tobacco smoke and aerosol emissions in outdoor areas where they are likely to be present, such as our [City]'s playgrounds;

Creating smoke- and aerosol-free zones in certain public spaces where children and adults are likely to congregate and/or where persons cannot readily escape from exposure to tobacco smoke will protect the health, safety and welfare of the residents of our community;

Local regulation of tobacco use is important because while the federal government may regulate tobacco products, it is not authorized to impose local smoking restrictions;

NOW THEREFORE, it is the intent of [Common Council], in enacting this ordinance, to provide for the public health, safety, and welfare by protecting the public and the environment from tobacco-related litter; by discouraging the inherently dangerous behavior of smoking around non-tobacco users, especially children; by reducing involuntary exposure to secondhand smoke and aerosol where people play, exercise, and relax; by reducing the potential for children to wrongly associate tobacco use with a healthy lifestyle, and by affirming and promoting a health environment in and around [City]'s recreational areas.

**Section 2: Definitions**

As used in this Chapter, the following terms shall have the meanings indicated:

ACCESSORY means any product that is intended or reasonably expected to be used with or for the human consumption of a Tobacco Product or Electronic Aerosol Delivery System; does not contain tobacco and is not made or derived from tobacco; and meets either of the following: (1) is not intended or reasonably expected to affect or alter the performance, composition, constituents, or characteristics of a Tobacco Product or Electronic Aerosol Delivery System; or (2) is intended or reasonably expected to affect or maintain the performance, composition, constituents, or characteristics of a Tobacco Product or Electronic Aerosol Delivery System but (a) solely controls moisture and/or temperature of a stored Tobacco Product or Electronic Aerosol Delivery System; or (b) solely provides an external heat source to initiate but not maintain combustion of a Tobacco Product. Accessory includes, but is not limited to, carrying cases, lanyards and holsters.

BEACH means any outdoor area along a shoreline of an ocean or lake and extending [one thousand (1,000) feet] from the shoreline that is owned or operated by [the City or that is
COMPONENT OR PART means any software or assembly of materials intended or reasonably expected: (1) to alter or affect the Tobacco Product’s or Electronic Aerosol Delivery System’s performance, composition, constituents, or characteristics; or (2) to be used with or for the human consumption of a Tobacco Product or Electronic Aerosol Delivery System. Component or Part excludes anything that is an Accessory, and includes, but is not limited to e-liquids, cartridges, certain batteries, heating coils, programmable software and flavorings for Tobacco Products or Electronic Aerosol Delivery Systems.

ELECTRONIC AEROSOL DELIVERY SYSTEM means an electronic device that, when activated, produces an aerosol that may be inhaled, whether or not such aerosol contains nicotine. Electronic Aerosol Delivery System includes any Component or Part but not Accessory, and any liquid or other substance to be aerosolized, whether or not separately sold. Electronic Aerosol Delivery System does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act.

ENTRANCES AND EXITS means the passageways by which persons may enter a building, typically consisting of a door or doorway. For the purposes of this chapter, this includes the stoop, steps, or ramp leading from the sidewalk or pavement to such a door or doorway.

FOOD SERVICE ESTABLISHMENT means any business establishment, including outdoor seating areas thereof, in which the business includes the sale of food or beverages for on-premises consumption.

PERSON means any natural person, partnership, cooperative association, corporation, personal representative, receiver, trustee, assignee, or any other legal entity except the [City].

PLACE OF EMPLOYMENT means any indoor area or portion thereof under the control of an employer in which employees of the employer perform services, and shall include, but not be limited to, offices, school grounds, retail stores, banquet facilities, theaters, food stores, banks, financial institutions, factories, warehouses, employee cafeterias, lounges, auditoriums, gymnasiums, restrooms, elevators, hallways, museums, libraries, bowling establishments, employee medical facilities, rooms or areas containing photocopying equipment or other office equipment used in common, and company vehicles.

PLAYING FIELD means that portion of an outdoor Recreational Area that is set up and marked in some way for the playing of one or more specific games or sports (such as baseball, football, or soccer), and that is open to the general public. For the purposes of this chapter, a playing field that is fenced or the outside perimeter of which is otherwise physically demarcated shall be deemed to include all of the area inside such fence or demarcation, together with any bleachers or other designated viewing area; a playing field that is not fenced or otherwise demarcated (as to its outside perimeter) shall be deemed to include all of the area customarily required for playing the game for which it is being used, together with any bleachers or other designated viewing area.

RECREATIONAL AREA means any outdoor area that is [owned or operated by the City] and
open to the general public for recreational purposes, regardless of any fee or age requirement. Recreational Area includes but is not limited to Playing Fields, playgrounds, parks, picnic areas, golf courses, walking paths, gardens, hiking trails, bike paths, horseback riding trails, swimming pools, roller- and ice-skating rinks, skateboard parks, and amusement parks. Recreational Area is not intended to include streets and sidewalks unless they are located within a demarcated Recreational Area such as a park.

SERVICE AREA means any area designed to be or regularly used by one or more persons to receive or wait to receive a service, enter a public place, or make a transaction, whether or not such service includes the exchange of money. Service Area includes, but is not limited to, bus stops and other mass transit shelters, ATMs, public telephones, ticket lines, cab stands, concert lines, sporting event lines, and food vendor lines.

SMOKING means inhaling, exhaling, burning, or carrying any lighted or heated cigar, cigarette, or pipe, or any other lighted or heated tobacco or plant product intended for inhalation, in any manner or in any form.

TOBACCO PRODUCT means any product made or derived from tobacco or which contains nicotine, marketed or sold for human consumption, whether consumption occurs through inhalation, or oral or dermal absorption. Tobacco Product includes any Component or Part, but not Accessory. Tobacco Product does not include drugs, devices, or combination products authorized for sale by the state or U.S. Food and Drug Administration, as those terms are defined in the Federal Food, Drug and Cosmetic Act.

Section 3: Prohibition of Tobacco Product Use in Indoor and Outdoor Areas

(A) Smoking and the use of Tobacco Products and Electronic Aerosol Delivery Systems is prohibited in all of the following places within the [City]:

1. Places of Employment;
2. Bars;
3. Enclosed indoor areas open to the public;
4. Beaches;
5. Recreational Areas;
6. Food Service Establishments; and
7. All outdoor areas of property owned or leased by the [City] for official government use.

8. Within [100 feet] of entrances, exits or outdoor areas of any public or private elementary or secondary school; provided, however, that the provisions of this subsection shall not apply to smoking or Electronic Aerosol Delivery System use in a residence, or within the real property boundary lines of such residential real property;

9. Within [25 feet] of Entrances and Exits to other buildings within which smoking is prohibited by Article 13-E of the New York Public Health Law;
(10) Within [25 feet] of Food Service Establishments, including the outdoor areas thereof; and
(11) Outdoor Service Areas and within [25 feet] thereof.

(B) The prohibitions in Section 3(A) shall not apply to outdoor areas of private residential properties.

(C) Nothing in this Chapter prohibits any Person with legal control over any property from prohibiting Smoking and Tobacco Product or Electronic Aerosol Delivery System use on any part of such property, even if Smoking or the use of Tobacco Products or Electronic Aerosol Delivery Systems is not otherwise prohibited in that area.

(D) The Director of _______ or his/her designee shall engage in an ongoing educational program to explain and clarify the purposes and requirements of this Chapter. However, lack of such education shall not be a defense to a violation of this Chapter.

Section 4: Other Requirements and Prohibitions

(A) No ash can, ashtray, or other Smoking or Tobacco Product-specific waste receptacle shall be placed in any area in which Smoking is prohibited by this Chapter.

(B) No Person shall permit Smoking or the use of Tobacco Products or Electronic Aerosol Delivery Systems in an area under the Person’s control in which Smoking or the use of Tobacco Products or Electronic Aerosol Delivery Systems is prohibited by this Chapter;

(C) The Department of _______ shall issue requirements about the content and placement of signage advising the public of the restriction on use of Tobacco Products and Electronic Aerosol Delivery Systems and/or Smoking in the designated areas.

(D) The presence of Smoking or Tobacco Product-specific waste receptacles in violation of subsection (A) and the absence of signs required by subsection (C) shall not be a defense to a violation of any provision of this Chapter.

(E) No Person or employer shall discharge, refuse to hire, or in any manner retaliate against an employee, applicant for employment, or customer because that employee, applicant, or customer exercises any rights afforded by this Chapter or reports or attempts to report a violation of this Chapter.

Section 5: Penalties and Enforcement

(A) The remedies provided by this Chapter are cumulative and in addition to any other remedies available at law or in equity.

(B) Each instance of Smoking or Tobacco Product or Electronic Aerosol Delivery System use in violation of this Chapter shall constitute a separate violation. For violations other than Smoking or Tobacco Product or Electronic Aerosol Delivery System use, each day of a continuing violation of this Chapter shall constitute a separate violation.
(C) Causing, permitting, aiding, abetting, or concealing a violation of any provision of this Chapter shall also constitute a violation of this Chapter.

(D) Each violation of this Chapter constitutes an infraction subject to a [one hundred dollar ($100)] fine.

(E) Enforcement of this Chapter shall be the responsibility of ____. In addition, any peace officer or code enforcement official may enforce this Chapter.

(F) Any violation of this Chapter is hereby declared to be a nuisance.

(G) In addition to other remedies provided by this Chapter or by other law, any violation of this Chapter may be remedied by a civil action brought by the City Attorney, including, but not limited to, administrative or judicial nuisance abatement proceedings, code enforcement proceedings, and suits for injunctive relief.

(H) [Nothing in this Chapter shall create a right of action in any Person against the City or its agents to compel public enforcement of this Chapter against private parties.]

(I) Any Person may bring a civil action to enjoin a violation of this Chapter by a business or to enjoin repeat violations of this Chapter by an individual.

Section 6: Statutory Construction & Severability

The provisions of this Chapter are declared to be severable, and if any section of this Chapter is held to be invalid, such invalidity shall not affect the other provisions of this Chapter that can be given effect without the invalidated provision.

Section 7: Effective Date

The effective date of this ordinance shall be [sixty (60) days] from the date of its enactment.
Appendix D. Evidence-Based Tobacco Control Policies Available to New York Communities

See tobaccopolicycenter.org for more details.

Define the regulated product and incorporate into existing tobacco controls

Electronic cigarettes and similar devices may be regulated as a tobacco product and/or grouped with other nicotine-containing products. Wherever the use or sale of tobacco is restricted, so too should the use and sale of e-cigarettes be similarly restricted. Further, as discussed in Section II, maximally effective controls will capture non-nicotine containing products. This strategy effectively conveys that nicotine-free e-cigarettes are not benign products—they pose individual and population health risks and these risks may be mitigated through public health controls.

Require e-cigarette retailers to obtain a license or register with the state or local government.

A license permits a business to do something it would otherwise be prohibited from doing. Currently, all tobacco retailers must register with the New York State Department of Tax and Finance. Some local governments also require a local license to sell tobacco products. While some of these local license requirements apply to e-cigarette retailers, many retailers across the state are permitted to sell aerosol devices without the regular oversight required by licensing and registration systems.

Tobacco marketing in the retail environment is an effective tactic to recruit new “replacement” smokers and maintain use by existing customers. Evidence shows that this retail marketing increases the likelihood that adolescents will initiate tobacco use and undermines cessation attempts by current users. Today’s e-cigarette marketing mimics traditional cigarette marketing of the past and may have similar effects on initiation of e-cigarette use by youth. Additionally, e-cigarette use often mimics cigarette use, modeling a behavior that is associated with youth smoking. Finally, with the exception of restricting sales to persons age 18 or older, e-cigarette sales are almost entirely unregulated—they can be sold by anyone in any location, making enforcement of even the consumer age restriction difficult.

New York State and its local communities have a strong interest in reducing exposure to tobacco retail marketing and environmental cues to smoke, and ensuring existing youth access requirements are enforced. New York communities have the same interest in e-cigarette marketing: youth use of the devices is growing exponentially and seems to be associated with future use of traditional cigarettes, and adults who might otherwise quit are using aerosol devices in addition to combustible cigarettes. As referenced in the discussion on marketing, e-cigarette marketing is pervasive (and largely unrestricted) and youth exposure to it is high,
especially through the retail environment. Additionally, five brands account for 95 percent of advertising expenditures—and three of those brands are owned by major tobacco companies; and advertising expenditures for e-cigarettes and similar devices are rapidly rising (MarkTen, the e-cigarette brand with the highest advertising expenditures in 2014, increased its spending from $431,000 in 2013 to $53 million in 2014).

Licensing and registration requirements permit the government to regulate the sale of tobacco products (including e-cigarettes), such as setting limits on the number, location, or types of retailers permitted to sell tobacco, thereby reducing exposure to both marketing and environmental cues to use the products. Research demonstrates that these limits can be effective tools for reducing the prevalence of smoking, and given e-cigarette marketing and use trends, they are likely to be similarly powerful for reducing aerosol device use, particularly among youth.

Why is retailer licensing an effective policy?

The density, location, and type (e.g., pharmacy) of “messenger” of tobacco product marketing each influence perceptions and ultimately use rates. Increased density of tobacco retail outlets is correlated with increased tobacco use, including youth smoking. The location of retailers is important to perception: Tobacco industry documents “reveal[] a strategic interest in placing youth oriented brands, promotion, and advertising in locations where young people congregate,” including locations near high schools. The type of retailer also influences tobacco use: Pharmacy tobacco sales and marketing in pharmacies send a mixed message about the risks of tobacco use and contribute to community normalization of tobacco – a factor in use rates.

Industry marketing tactics are especially troubling when coupled with research demonstrating that there is a higher concentration of tobacco retailers in areas with high proportions of minors and in areas with more disadvantaged residents. The entry of major tobacco companies into the e-cigarette market raises concerns that the same marketing tactics will carry over to new products.

To protect public health, states and municipalities can use a licensing system to reduce the density of tobacco retail outlets by reducing the number of retailers in a jurisdiction, and prohibiting the sale of tobacco products, including e-cigarettes, in certain locations and in some types of businesses. This not only reduces access to the products, but reduces residents’ exposure to associated marketing. Moreover, requiring tobacco and e-cigarette retailers to obtain a license creates an enforcement mechanism for not only license conditions, but also existing state and local tobacco control laws, including youth access restrictions. Ideally, a policy will include e-cigarette retailers in any tobacco retail licensing system (e.g., City of Newburgh). In the alternative, the state or community could adopt a separate licensing requirement for e-cigarette retailers (e.g., New York City).

Note that some tobacco sales regulations separately define or identify specialty tobacco retail shops and subject them to different requirements. Given the proliferation of specialty aerosol...
device retailers, or “vape shops,” New York and its local municipalities may consider how the following retailer restrictions will affect existing and future e-cigarette sales in the community. Each of the following licensing policies can apply broadly to retailers of ALL types of tobacco products, or may be modified to best suit the community.

**Licensing restrictions on the number of retailers**

Licensing systems can be used to reduce tobacco and e-cigarette use by limiting the number of retailers in a jurisdiction. Limiting or reducing the number of retailers reduces exposure to tobacco and e-cigarette marketing, critical to forming early impressions of the products’ normalcy and appeal. In addition, limiting the number of retail outlets helps to de-normalize both the purchase and sale of tobacco and e-cigarette products which, because of their addictive and deadly nature, should not be treated as just another consumer product that is readily available in every store. Moreover, when customers need to make a greater effort to find and obtain tobacco products, research shows that this will lead to a decrease in tobacco use, particularly among youth.

**Licensing restrictions on the location of retailers**

Setting a minimum distance between tobacco and electronic cigarette retailers and places in which youth congregate (e.g., schools, playgrounds or youth centers) is another strategy that may reduce the likelihood that youth will initiate tobacco or e-cigarette use. Restricting retailers from places youth frequent reduces access to the products, and exposure to e-cigarette and other tobacco product marketing and environmental cues to smoke. Several studies have found correlations between tobacco outlet density near schools and student smoking, and at least one study concluded that “regulating the minimum distance between schools and tobacco outlets could effectively reduce their density in school neighborhoods. …[L]imiting the density of tobacco outlets [and] their proximity to schools . . . may all be plausible strategies to reduce adolescent smoking.” Given the exponential growth of youth e-cigarette use rates, and its relation to future cigarette use, limiting retailer density around schools and other places youth congregate requires special consideration. Moreover, reducing the density of retailers near youth-centered places also benefits the community as a whole, reducing retail density in the neighborhood surrounding each of those facilities.

**Licensing restrictions on the type of retailers permitted to sell tobacco**

Regulating the type of retailer permitted to sell tobacco products primarily refers to the restriction of pharmacy sales of tobacco products and e-cigarettes. The principal rationale for banning the sale of tobacco products in pharmacies is that such sales send an incongruent message. Pharmacies are retail locations that focus on offering products and services to help consumers lead healthier lives and market themselves as a health care resource. Pharmacies are increasing their role as direct healthcare providers, dramatically expanding the number and scope of their retail clinics. Further, customers visit pharmacies to purchase medicines to...
treat their tobacco-related diseases and obtain assistance with tobacco product cessation. Selling cigarettes and other tobacco products (including e-cigarettes) alongside these medications and cessation aids is contradictory and potentially detrimental to smoking cessation efforts and the public health.238

**Licensing as an enforcement tool for other tobacco controls**

State and local governments can use licensing systems to ensure compliance with federal and state requirements such as the federal Synar Amendment, which requires states to monitor underage tobacco sales with compliance checks,239 and federal e-cigarette regulations and New York State’s Adolescent Tobacco Use Prevention Act (ATUPA), which prohibit tobacco and e-cigarette sales to minors.240 Further, tobacco retail licensing can help localities track local retailers and enforce their own tobacco control laws. A well-enforced licensing system provides strong incentives to retailers to comply with tobacco control laws because they may face fines or a revocation of their licenses as a consequence of violating those laws. Tobacco retail licensing systems are economically feasible and sustainable for states and local governments since license fees may be used to fund both the administration of the licensing system and related tobacco control enforcement efforts.

**Raise the minimum age of legal access for e-cigarette and other tobacco products.**

E-cigarettes are currently the most common tobacco products used by high school and middle school students.241 Recent declines in youth tobacco use rates are stagnating as a result.242 This is concerning because adolescents are particularly susceptible to the “rewarding” effects of nicotine,243 and can become addicted at very low levels of nicotine exposure.244 Moreover, aerosol device use has been associated with higher odds of ever or current cigarette smoking and lower odds of abstinence from conventional cigarettes.245

Restricting youth access to all tobacco products is good policy. The federal government and New York State have established a minimum age of legal access to tobacco products and e-cigarettes (MLA) of 18 years.246 Limiting youth access to a deadly product has been one of the country’s most successful tobacco controls.247 While the inclusion of aerosol products in youth access restrictions is a promising policy development, an MLA of 18 (or even 19) is not as effective as it once was. In 2015, the Institute of Medicine concluded that increasing the MLA could prevent or delay initiation of tobacco use by adolescents and young adults. The great majority of adult regular smokers began smoking by the time they were 18 (and often much younger); most underage youth get their tobacco products from social sources. Today there are more 18 and 19 year olds in high school than ever before248 and these students serve as those social sources of tobacco products.249

In light of the evidence, many local governments in New York250 and in other states251 are raising the MLA to 21 (a policy commonly referred to as “Tobacco 21”). Twenty-one year olds are significantly less likely to travel within the same social circles as 15 and 16 year olds.252
Tobacco 21 has the potential to effectively restrict tobacco product access for those most likely to begin using them, and it is likely that the same strategy can delay or prevent youth e-cigarette use. Any jurisdiction pursuing Tobacco 21 should craft the policy to apply to all tobacco products, including e-cigarettes.

**Restrict the use of price reducing promotions.**

Numerous studies demonstrate the inverse relationship between the price of tobacco products and tobacco consumption. Lower cigarette prices translate to more cigarettes consumed. Tobacco companies capitalize on this by manipulating prices to their advantage. Given the entry of major tobacco companies into the e-cigarette market, the industry is likely to do the same for aerosol devices. Even in high tax jurisdictions like New York, tobacco industry pricing schemes are successful at moving youth from experimental to regular smokers and interfering with consumers’ attempts to quit tobacco use. Importantly, New York does not tax e-cigarettes or e-liquid as tobacco products, nor does the state regulate price promotions. Fortunately, there are effective policies to inhibit these tobacco industry efforts to recruit and maintain customers.

Increasing the price of cigarettes prevents young people from initiating smoking and, despite the addictiveness of nicotine, reduces the number of cigarettes consumed by people who smoke, and increases cessation. In fact, studies show that a 10 percent increase in the price of cigarettes causes a 3-5 percent decrease in purchases among adult consumers (and youth may be even more price-sensitive). Early research indicates that similar effects result from increased e-cigarette prices.

The tobacco industry has used a variety of price-reducing strategies to attract price-sensitive populations to their products. Price discounting has been a key marketing tool for tobacco companies since the late 1880s; currently, tobacco companies spend **more money on price discounts than on any other form of product promotion**. According to the Federal Trade Commission, the tobacco industry spent approximately $8.5 billion—or nearly 87 percent of the industry’s total marketing budget—on price discounts in 2013 (that latest year for which information is available). Of this total expenditure, the industry spent more than $8 billion on undisclosed payments to retailers or wholesalers to reduce product prices (e.g., through “off-invoice discounts,” “buy downs,” and voluntary price reductions). Tobacco companies spent more than $293 million on “discount coupons,” retail “value-added sales” and sampling (distribution of free product). While we do not have similar information on e-cigarette promotional expenditures, we know that e-cigarette manufacturers and retailers are using many of the same promotional tactics used by cigarette manufacturers before the MSA.

Tobacco industry price discounting promotions are designed to increase consumption in price-sensitive groups, including youth. Tobacco companies craft discount promotions to especially appeal to subpopulations of low-socioeconomic tobacco consumers, targeting the less educated, youth and young adults, African Americans, women, Hispanics and those with higher daily consumption levels. It is of special concern that youth and young adults register among the highest in price-sensitivity, most likely to take advantage of
promotional offers and that price discounts are “particularly appealing to young price-sensitive smokers.” Price promotions are associated with youth progression from experimentation with cigarettes to regular smoking. Policies that restrict price discounts and promotions would complement existing New York tobacco control policies and influence use rates among youth and other populations disparately impacted by tobacco marketing and use.

New York State (and its local governments) could prohibit the redemption of discount tobacco coupons and the use of value-added promotions that effectively reduce the price paid by consumers for tobacco products, including e-cigarettes. Presently, state law restricts sampling by prohibiting the distribution of products or coupons that can be redeemed for free tobacco products (not including e-cigarettes). This law, however, is very narrow in scope. Importantly, the law does not restrict the distribution or redemption of coupons offering discounted (but not free) tobacco products or value-added promotions of tobacco products. Restricting or prohibiting these promotions could close loopholes exploited by the industry to reduce the retail price of their products. Additionally, such a restriction counters industry efforts to discourage cessation by promoting the dual use of cigarettes (in places where smoking is permitted) and smokeless tobacco products, including e-cigarettes (in workplaces and other areas where smoking is prohibited).

Notably, two municipalities (New York City, NY and Providence, RI) have adopted price promotion restrictions which have been upheld by the courts. Both laws prohibit the redemption of coupons and certain value-added sales (e.g., multipack discounts) for any tobacco product; Providence specifically applies its restriction to aerosol device cartridges.

Restrict the sale of flavored products.

Flavored tobacco products appeal to youth; in fact, youth are far more likely to use flavored tobacco products than adults. Characterizing flavors, including menthol, tend to mask the harshness of smoke. Increase initiation, decrease cessation. Additionally, tobacco users often perceive flavored products to be safer than other products. Recognizing the detrimental public health effect of flavorings, Congress prohibited the use of kid-friendly flavors (except menthol) in cigarettes through the Family Smoking Prevention and Tobacco Control Act.

It is important to note that flavorings do not simply add to the experience of e-cigarette use, but provide an avenue for marketing the products to youth. Youth tobacco users often begin with flavored products and, overall, use flavored products at high rates. The same appears to be true for users of e-cigarette products—two-thirds of youth e-cigarette use is flavored, over 80% youth users report “flavor” as a reason to use the devices and youths’ most commonly expressed product preference is for flavored products.

Federal flavor restrictions do not carry through the logic regarding this well-known phenomenon to e-liquids, which come in thousands of flavors attractive to youth, including marshmallow, chocolate, gummi bear and orange, among others. And while we do not yet know who is using what e-liquid flavors, we know that the rate of youth use has exponentially grown.
York and its local communities have the authority to restrict or prohibit the sale of flavored e-liquids, and likely reduce youth attraction to and use of the devices.\textsuperscript{288}

Some local governments have recognized the significance of flavorings in youth tobacco use and adopted restrictions more stringent than federal tobacco restrictions. For example, New York City restricts the sale of flavored tobacco products (exempting menthol and e-cigarettes).\textsuperscript{289} Additionally, Providence, RI restricts the sale of flavored tobacco products (exempting menthol), including e-cigarettes and e-liquids.\textsuperscript{290}

\textbf{Restrict e-cigarette use in public spaces.}

Smoke-free laws work in two ways: They reduce exposure to harmful emissions\textsuperscript{291} and they signal that smoking is unacceptable in public spaces.\textsuperscript{292} Smoke-free policies and laws have been found to reduce smoking and the prevalence of tobacco use, increasing the number of tobacco users who quit, and reducing tobacco use initiation among youth.\textsuperscript{293}

Policies restricting the use of e-cigarettes in public places are likely to yield similar results. E-cigarette use often mimics smoking, thereby re-normalizing the acceptability of emitting potential harmful aerosol in public places and around non-users. Moreover, e-cigarette use leads to nicotine addiction; while research results are mixed, some evidence suggests that electronic cigarette use is correlated with progression to cigarette use.\textsuperscript{294} Finally, permitting the use of the devices where smoking is prohibited creates significant confusion for retailers, employers and enforcement officials, since e-liquid constituents are unknown, and emissions often look like combustible tobacco smoke.

Incorporating e-cigarettes into a new or existing smoke-free or clean-air policy is good for public health by reducing involuntary exposure to emissions. E-cigarette emissions are not toxin-free; bystanders can be exposed to nicotine and ultrafine particles from the aerosol can be deposited in the lung.\textsuperscript{295} Even short-term exposure may cause eye, throat and airway irritation.\textsuperscript{296} Additionally, research from the University of Chicago demonstrates that passive exposure to both electronic cigarette and combustible cigarette use increased young adult smokers’ urge to smoke combustible cigarettes.\textsuperscript{297} Adding e-cigarettes to local tobacco-free or clean air laws reduces involuntary exposure to emissions, reinforces protections to clean air, and ensures the social norm changes already achieved in New York are not undermined.

As of January 2016, at least 475 municipalities, including New York City, Chicago, and San Francisco, and eight states (including Connecticut and New Jersey) had incorporated e-cigarettes into comprehensive clean indoor air laws.\textsuperscript{298} As noted above, New York City, the City of Buffalo, and the counties of Putnam, Suffolk, and Tompkins have incorporated e-cigarette use into their local clean indoor and/or outdoor air laws,\textsuperscript{299} and Albany, Erie, and Westchester Counties have prohibited use of e-cigarettes wherever smoking is prohibited.\textsuperscript{300} Several other counties prohibit e-cigarette use outdoors on county-owned property.\textsuperscript{301} A model of how other New York jurisdictions may restrict e-cigarette use in public spaces follows this report in Appendix C.
## Appendix E: Image Credits

<table>
<thead>
<tr>
<th>Image</th>
<th>Source</th>
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<tbody>
<tr>
<td>“Cig-a-likes,” e-hookahs, and tanks. Public Health and Tobacco Policy Center, 2016, tobbacopolicycenter.org</td>
<td><img src="image1.jpg" alt="Image" /></td>
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<tr>
<td>Parts of an E-cigarette. Shutterstock, 2014, cen.acs.org/articles/92/i10/Controversy-Clouds-E-Cigarettes.html</td>
<td><img src="image2.jpg" alt="Image" /></td>
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<td>An e-cigarette kiosk in a Providence, RI shopping mall, portraying e-cigarettes as a cessation device. Ilana Knopf, 2016, on file with the author.</td>
<td><img src="image3.jpg" alt="Image" /></td>
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<tr>
<td>Aerosol released from delivery device. Kenzo Tribouillard, AFP/Getty Images, usatoday.com</td>
<td><img src="image4.jpg" alt="Image" /></td>
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<tr>
<td>Sports promotions and flavors. Smk24ecig.com, 2014, smk24ecig.com</td>
<td><img src="image6.jpg" alt="Image" /></td>
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<td>Obama signs Tobacco Control Act, Brendan Smialowski, 2009, New York Times, newyorktimes.com</td>
<td><img src="image7.jpg" alt="Image" /></td>
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<tr>
<td>2011 e-cigarette ad found in Rolling Stone and others. Trinkets and Trash, 2011, trinketsandtrash.org.</td>
<td><img src="image9.jpg" alt="Image" /></td>
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<td>Celebrity spokespeople for e-cigarettes and cigarettes. National Center for Health Research, 2016, Center4Research.org</td>
<td><img src="image10.jpg" alt="Image" /></td>
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<td>World electronic brand. DHGate.com, 2014, dhgate.com</td>
<td><img src="image11.jpg" alt="Image" /></td>
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<tr>
<td>Components of a Blu e-cigarette. Electronic Cigarette Reviews, 2013, electroniccigarette.net</td>
<td><img src="image12.jpg" alt="Image" /></td>
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<tr>
<td>Two-piece rechargeable e-cigarette. Electronic Cigarette Reviews, electroniccigarettereview.com</td>
<td><img src="image13.jpg" alt="Image" /></td>
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<tr>
<td>The Joyetech eGo-T.</td>
<td><img src="image14.jpg" alt="Image" /></td>
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<tr>
<td>E-cigarette components. DHGate.com, 2014, dhgate.com</td>
<td><img src="image15.jpg" alt="Image" /></td>
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<tr>
<td>The Volcano Vaporizer, a tabletop vaporizer. Vape Giant, 2016, vaporizergiant.com</td>
<td><img src="image16.jpg" alt="Image" /></td>
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<td>A vape that uses Bluetooth and can be linked to mobile apps. Vuse Vapor, 2016, vusevapor.com</td>
<td><img src="image17.jpg" alt="Image" /></td>
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<tr>
<td>Lindsay Fox (Flickr), 2013, ecigarettereviewed.com</td>
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<td>Food and Drug Administration, 2016, fda.gov</td>
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<td>Custom welcome sign, 2016, roadtrafficsigns.com.</td>
<td><img src="image20.jpg" alt="Image" /></td>
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<tr>
<td>Seal of New York State. By United States. [Public domain or Public domain], via Wikimedia Commons, 2008, commons.wikipedia.org.</td>
<td><img src="image21.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>
Public Health and Tobacco Policy Center


4 2014 SURGEON GENERAL REPORT, supra note 1, at 743 (finding that the percentage of U.S. middle and high school students who use e-cigarettes more than doubled between 2011 and 2012); Tushar Singh et al., Tobacco Use Among Middle and High School Students — United States, 2011–2015, 65 MORB. MORTAL. WKLY. REP. 361, 361 (2016) (reporting that in 2014 adolescent e-cigarette use surpassed cigarette use and rates rose again in 2015).


8 Shu-Hong Zhu et al., Four Hundred and Sixty Brands of E-Cigarettes and Counting: Implications for Product Regulation, 23 TOBACCO CONTROL iii3, iii6 (2014).


10 This product category was developed for nicotine delivery and is overwhelming marketed and used for nicotine delivery. This report however, presents reasons for including nicotine-free e-liquids and delivery systems in local controls (see infra Appendix C) and the model policy (see infra Rational: Why Control E-cigarettes? and Approach to E-cigarette Regulation) and the model policy (see infra Rational: Why Control E-cigarettes? and Approach to E-cigarette Regulation) captures nicotine-free systems.

11 Priscilla Callahan-Lyon, Electronic Cigarettes: Human Health Effects, 23 TOBACCO CONTROL ii36, ii37 (2014) (explaining “[s]tudies have found wide ranges in nicotine levels, variability in aerosolisation, inaccurate product labeling, and inconsistent nicotine delivery during product use” and concluding that the absence of quality standards and e-cigarette product consistency are significant concerns and that product labeling is inconsistent and potentially misleading); Paul Truman Harrell et al., Electronic Nicotine Delivery Systems (“E-Cigarettes”): Review of Safety and Smoking Cessation Efficacy, 151 OTOLARYNGOLOGY & HEAD & NECK SURG. 381, 381 (2014) (concluding e-cigarettes currently vary widely in their contents and are sometimes inconsistent with labeling).
Local Regulation of E-cigarettes


13 Konstantinos E. Farsalinos et al., Nicotine absorption from electronic cigarette use: comparison between experienced consumers (vapers) and naïve users (smokers), 5 SCI. REP. 11269 (2015) (“Nicotine intake may also be influenced by the type of device used, with a recent study showing that new-generation devices, providing high power to the atomizer for aerosol production, can deliver nicotine faster and more efficiently.”)


15 Farsalinos et al., supra note 13 (reporting that the newer generation devices are predominantly used by established smokers or ex-smokers who are heavy users of e-cigarettes); Konstantinos E. Farsalinos et al., Nicotine absorption from electronic cigarette use: comparison between first and new-generation devices, 4 SCI. REP. 4133, 4133 (2014) (finding that satisfaction/craving reduction was increased by later-generation products).


18 Farsalinos (2015), citing Soha Talih et al., Effects of user puff topography, device voltage, and liquid nicotine concentration on electronic cigarette nicotine yield: measurements and model predictions, 17 NICOTINE & TOB. RES. 150, 150 (2015) (finding that elevating power levels leads to increased aerosol yield and nicotine delivery from the liquid to the aerosol).

19 See Lee & Kim, supra note 3.

20 While technically the internet sale of tobacco is not prohibited, the delivery of tobacco products through the mail or other common carrier is significantly restricted, effectively rendering internet tobacco sales impermissible. Prevent All Cigarette Trafficking Act, 111 Pub. L. 154, §3, 124 Stat. 1087 (2010) [hereinafter PACT Act]; see also N.Y. PUB. HEALTH LAW §1399-ll (McKinney 2016) (restricting the shipment of cigarettes into or within New York State).


22 N.Y. PUB. HEALTH LAW § 1399-cc (McKinney 2016).


24 DUTCHESS CNTY, N.Y. SANITARY CODE § 25.3 (2016).


26 CAYUGA CNTY, N.Y. LOCAL LAW 5 of 2013 § 3 (2016).

27 N.Y. CITY, N.Y. ADMIN. CODE § 17-513.3 (2016).


29 N.Y. CITY, ADMIN. CODE § 17-504 (2016).


31 Cristine D. Delnevo et al., Patterns of Electronic Cigarette Use among Adults in the United States, 18 NICOTINE TOB. RES. 715, 716 (2016); Brian A. King et al., Trends in Awareness and Use of Electronic Cigarettes among US Adults, 2010–2013, 17 NICOTINE & TOB. RES. 219, 219 (2015); Singh et al., supra note 4, at 364 (reporting rising e-cigarette use among middle school and high school students).

33 N.Y. DEP’T. OF HEALTH, PREVALENCE OF CIGARETTE SMOKING, USE OF ELECTRONIC NICOTINE DELIVERY SYSTEMS, AND DUAL USE BY YOUTH, YOUNG ADULTS, AND ADULTS IN NYS, 2014. STATSHOT Vol. 8, No. 5 (Nov. 2015), (reflecting past 30-day e-cigarette use by high schoolers (10.5 percent) at *more than twice the rate of adults ages 25 and older*) available at https://www.health.ny.gov/prevention/tobacco_control/reports/statshots/volume8/n5_cigarette_ends_and_dual_use_2014.pdf.

34 Studies utilize different survey methodology and assess subgroups within “youth,” “adolescent,” and “young adult” populations. Rapidly changing use behavior and high variability among subgroups may be contributing to divergent conclusions within current research. In this report, trends in youth use are described based on the conclusions from the National Youth Tobacco Survey administered by the CDC Office on Smoking and Health, with other authors’ results mentioned for comparison.

35 Catherine Corey et al., *Notes from the Field: Electronic Cigarette Use among Middle and High School Students*, 35 ONCOLOGY TIMES 36, 36 (2013) (finding that the percentage of students in grades 6-12 who had ever tried an e-cigarette rose from 3.3 percent in 2011 to 6.8 percent in 2012); see also Lauren M. Dutra & Stanton A. Glantz, *Electronic Cigarettes and Conventional Cigarette Use among U.S. Adolescents: a Cross-Sectional Study*, 168 JAMA PEDIATR. 610, 610 (2014).

36 Singh et al., *supra* note 4, at 364 (reporting 3 million middle school and high school users in 2015, up from 2.5 million in 2014. In 2015, 5.3 percent of middle schoolers used e-cigarettes, an increase from 3.9 percent in 2014 and 0.6 percent in 2011).


38 E-cigarette use by middle schoolers increased by a factor of 8.8 between 2011 and 2015 (from 0.6 percent of students in 2011 to 5.3 percent of students in 2015), while use by high schoolers increased by a factor of 10.7 (from 1.5 percent to 16.0 percent) during the same time period; see Arrazola et al., *supra* note 37; Singh et al., *supra* note 4.

39 Singh et al., *supra* note 4, at 364.

40 N.Y. DEP’T. OF HEALTH, *supra* note 33, at 1 (finding that 10.5 percent of high school students were e-cigarette users, while 7.3 percent were conventional cigarette users in 2015). See also Dutra and Glantz, *supra* note 35.

41 Singh et al., *supra* note 4, at 363, (noting that cigars are the most common product used by non-Hispanic black high school students).


43 N.Y. DEP’T. OF HEALTH, *supra* note 33, at 1 (finding that in New York, more than half of high school students and young adults who smoked also used e-cigarettes (56.5 percent and 54.9 percent respectively). In 2012, 49.8 percent of current youth e-cigarette users were current smokers); see Dutra and Glantz, *supra* note 35, at 610.

44 Corey et al., *supra* note 35 (reporting that among students in grades 6-12 who reported ever e-cigarette use in 2012, 9.3 percent reported never smoking conventional cigarettes; among current e-cigarette users, 76.3 percent reported current conventional cigarette smoking).

45 Rebecca E. Bunnell et al., *Intentions to Smoke Cigarettes among Never-Smoking US Middle and High School Electronic Cigarette Users: National Youth Tobacco Survey, 2011–2013*, 17 NICOTINE & TOB. RES. 228, 230 (2015). In 2013, more than 250,000 never-smoking youth used e-cigarettes. Id. Among ever cigarette smokers, 20.2 percent had ever used an e-cigarette compared to 0.9 percent among never
cigarette smokers. *Id.* Current e-cigarette use was 6.9 percent among ever cigarette smokers and only 0.3 percent among never cigarette smokers. *Id.* Additionally, among never smokers, smoking intention was higher among youth who had ever used e-cigs compared to those who had not (43.9% vs. 21.5%). *Id* at 230-231.

46 Dutra and Glantz, *supra* note 35, at 613 (finding more than 61 percent of current adolescent e-cigarette users had never smoked more than 100 lifetime cigarettes).

47 Bunnell et al., *supra* note 45, at 228.

48 Adam M. Leventhal et al., *Association of Electronic Cigarette Use with Initiation of Combustible Tobacco Product Smoking in Early Adolescence,* 314 J. AM. MED. ASSOC’N 700, 700 (2015); see also Dutra and Glantz, *supra* note 35, at 613 (finding current §and ever e-cigarette use associated with "very high odds of experimentation with cigarettes, ever cigarette smoking and current cigarette smoking.”

Among current smokers, current e-cigarette use was associated with higher levels of cigarette smoking); Thomas A. Wills et al., *Longitudinal study of e-cigarette use and onset of cigarette smoking among high school students in Hawaii,* TOBACCO CONTROL ONLINE FIRST at 5 (Jan. 25, 2016) (concluding the issue of whether e-cigarette use is a gateway to combustible tobacco use remains unsettled.

49 King et al., *supra* note 31, at Table 1.

50 Schoenborn & Gindi, *supra* note 32 (finding among current cigarette smokers who had tried to quit smoking in the past year, more than one-half had ever tried an e-cigarette and 20.3 percent were current e-cigarette users); Delnevo et al., *supra* note 31, at 717 (reporting highest daily use among former smokers who quit within the past year and “it is plausible that e-cigarette use is helping some smoker quit and stay quit.”).

51 CTRS. FOR DISEASE CONTROL & PREVENTION, ELECTRONIC NICOTINE DELIVERY SYSTEMS: KEY FACTS (May 2016), available at https://www.cdc.gov/tobacco/stateandcommunity/pdfs/ends-key-facts2015-508tagged.pdf (last visited Jul 14, 2016) (reporting nearly 77 percent of adult e-cigarette users were “dual users” who smoked traditional cigarettes during the same time period as using e-cigarette); Sara Kalkhoran & Stanton A Glantz, E-Cigarettes and Smoking Cessation in Real-World & Clinical Settings: a Systematic Review and Meta-Analysis, 4 LANCET RESPIR. MED. 116, 116 (2016) (reporting nicotine use in areas where smoking is prohibited as a motivating factor driving e-cigarette use).

52 Delnevo et al., *supra* note 31, at 715 (reporting that daily e-cigarette use is higher among former smokers who have recently quit than among current cigarette smokers).

53 CTRS FOR DISEASE CONTROL AND PREVENTION, *supra* note 51; Kalkhoran & Glantz, *supra* note 51, at 116, ("[as] currently being used, e-cigarettes are associated with significantly less quitting among smokers.”)

54 N.Y. DEP’T OF HEALTH, *supra* note 33, at 1 (reporting that dual use is the norm among youth).

55Hyland, *supra* note 32 (reporting 15.1 percent of youth poly tobacco users use e-cigarettes and cigarettes, the most frequent combination); Girija Syamlal et al., *Electronic Cigarette Use among Working Adults — United States, 2014,* 65 MORBIDITY & MORTALITY WEEKLY REP. 557, 559 (2016) (reporting that among working adults, an estimated 16.2 percent of current cigarette smokers, 15.0 percent of other combustible tobacco users, and 9.7 percent of smokeless tobacco users currently used e-cigarettes).

56 Hyland, *supra* note 32 (noting that adult nicotine initiation through e-cigarettes (i.e., use by never smokers) is seemingly on the rise: 15.9 percent of 2013/2014 current e-cigarette users had not previously used tobacco, as compared with 8.7 percent of never smokers reporting E-cigarette use in 2013); CTRS FOR DISEASE CONTROL & PREVENTION, *supra* note 42, at 1; Schoenborn & Gindi, *supra* note 32, at 1, finding that among adults who had never smoked cigarettes, the percentage who had ever tried an e-cigarette was highest for those aged 18-24 (9.7 percent) and declined as age increased.

57 Delnevo et al., *supra* note 31, at 716; Syamlal et al., *supra* note 55, at 557.


59 Delnevo et al., *supra* note 31, at 716; Singh et al., *supra* note 4, at 363 (noting male middle school and high school students reported higher use of any tobacco product (including e-cigarettes) in 2015 than females of both groups).

60 Hyland, *supra* note 32; Schoenborn & Gindi, *supra* note 32, at 3; Delnevo et al., *supra* note 31, at 716, reporting current (daily) smokers are generally more likely to use e-cigarettes than former smokers; however, among daily e-cigarette users, recently quit smokers are over four times more likely to represent than current daily smokers.
Hyland, supra note 32 (reporting low daily use among youth). “Exclusive and daily use of e-cigarettes remains low, no matter the youth’s use prevalence of other nicotine products. In fact, one-third of youth reporting past-30 day e-cigarettes use reported having just one puff of e-cigarette.” Id.

Schoenborn & Gindi, supra note 32, at 1–2 (finding 1) non-Hispanic American Indian or Alaska Native (AIAN) adults (20.2%) and non-Hispanic white adults (14.8%) were more likely than Hispanic (8.6%), non-Hispanic black (7.1 %), and non-Hispanic Asian (6.2%) adults to have ever tried an e-cigarette, and 2) current e-cigarette use was higher among non-Hispanic AIAN adults (10.7%) and non-Hispanic white adults (4.6%) than among Hispanic (2.1%), non-Hispanic black (1.8%), and non-Hispanic Asian (1.5%) adults); Syamlal et al., supra note 55, at 1 (reporting that among working U.S. adults the highest e-cigarette use prevalences were among males, non-Hispanic whites, persons aged 18–24 years, persons with annual household income <$35,000, persons with no health insurance, cigarette smokers, other combustible tobacco users, and smokeless tobacco users).

Hu et al., supra note 58, at Table 1 (reporting that 2.3 percent of adults in the Northeast used e-cigarettes every day or some days in 2013-14, compared to 3.5 percent in the Midwest, 3.7 percent in the South, and 3.4 percent in the West).

Goniewicz et al., supra note 12; Tobacco Product Deeming Rule, supra note 2, at 28983 (explaining that variable nicotine content has potential public health implications); Mohamad Sleiman et al., Emissions from Electronic Cigarettes: Key Parameters Affecting the Release of Harmful Chemicals, 50 ENVIRON. SCI. TECHNOL. 9644, 9644 (2016).

Goniewicz et al., supra note 12, at 10; Callahan-Lyon, supra note 11 (explaining the absence of quality standards, e-cigarette product consistency is a significant concern and that product labeling is inconsistent and potentially misleading); Harrell et al., supra note 11 (concluding e-cigarettes currently vary widely in their contents and are sometimes inconsistent with labeling); Tobacco Product Deeming Rule, supra note 2, at 29032, 29034.

Cheng, supra note 67; Sleiman et al., supra note 65, at 9644 (finding that propylene oxide and glycidol are released by e-cigarettes); Monique Williams et al., Metal and Silicate Particles Including Nanoparticles Are Present in Electronic Cigarette Cartomizer Fluid and Aerosol, 8 PLOS ONE e57987 (2013); Tobacco Product Deeming Rule, supra note 2, at 29029.

2014 SURGEON GENERAL REPORT, supra note 1, at 49, 112 (nicotine exposure at a young age may cause lasting harm to brain development and promote nicotine addiction and lead to sustained tobacco use – all nicotine product use is therefore a major concern).

Id. at 112.

Nicotine is a pharmacologically active agent that has acute toxicity and that readily enters the body and is distributed throughout. Id. Beyond causing addiction, it activates multiple biologic pathways that are relevant to fetal growth and development, immune function, the cardiovascular system, the central nervous system, and carcinogenesis. Id. Nicotine exposure during pregnancy also contributes to adverse reproductive outcomes, such as preterm birth and stillbirth. Id.

Id. at 111, 118.


Id. at 373.

Joseph G. Allen et al., Flavoring Chemicals in E-Cigarettes: Diacetyl, 2,3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarettes, 124 ENVIRON. HEALTH PERSPECT. 733, 733 (2015) (citing Zhu et al., supra note 8 (finding 7,764 unique flavorings on the
market in January 2014); Tobacco Product Deeming Rule, supra note 2, at 29014 (“Flavored e-liquid are especially attractive to youth.”).


80 Tushar Singh et al., Vital Signs: Exposure to Electronic Cigarette Advertising among Middle School and High School Students—United States, 2014, 64 MORBIDITY MORTALITY WEEKLY REP. 1403, 1405, 1407 (2016) (concluding, “Implementation of comprehensive efforts to reduce youth exposure to e-cigarette advertising and promotion is critical to reduce e-cigarette experimentation and use among youths” and children’s exposure to e-cigarettes ads “might be contributing to increasing youth experimentation with and use of e-cigarettes in recent years.”).


82 2012 SURGEON GENERAL REPORT supra note 77.

83 TOBACCO CONTROL LEGAL CONSORTIUM, supra note 5.

84 Id.

85 TRUTH INITIATIVE, supra note 79, at 2.


90 Yu et al., supra note 67.

91 Schweitzer et al., supra note 67.

92 Id. (noting that acrolein targets molecules that hold the lung endothelial cells together).

93 Yu et al., supra note 67.

94 U.S. Food & Drug Admin., Summary of Results: Laboratory Analysis of Electronic Cigarettes Conducted By FDA, http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm173146.htm (last visited Jul 7, 2016); Cheng, supra note 67, at ii11; Buettner-Schmidt, Miller, and Balasubramanian, supra note 67, at 373.


98 Tobacco Product Deeming Rule, supra note 2, at 29037 (“We also note that ENDS have not been approved as effective cessation aids.”); FDA 101: Smoking Cessation Products (identifying nicotine as a...
inhaler "Nicotrol" (a non-battery operated device comprised of a mouthpiece and cartridge) as a nicotine replacement smoking cessation product available by prescription) available at http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm198176.htm#replacement.

99 2014 SURGEON GENERAL REPORT, supra note 1, at i.

100 Id. at 743; see also 2012 SURGEON GENERAL REPORT, supra note 77, at 508; Marynak et al., supra note 7.

101 Tobacco Product Deeming Rule, supra note 2, at 29102.

102 See Tobacco Product Deeming Rule, supra note 2, at 29015 (“Component or part means any software or assembly of materials intended or reasonably expected: (1) to alter or affect the tobacco product’s performance, composition, constituents, or characteristics; or (2) to be used with or for the human consumption of a tobacco product. Component or part excludes anything that is an accessor of a tobacco product.”)

103 Tobacco Product Deeming Rule, supra note 2, at 29102.

104 Tobacco Deeming Rule, supra note 2, at 29041, 29015 (identifying a tobacco derived e-liquid and a container of tobacco derived e-liquid (respectively) as a component or part of a tobacco product within the scope of the rule.); c.f, Tobacco Product Deeming Rule at 29016 (contrasting with e-liquid container packaging materials that are not a “component or part” and are outside the scope of the rule).

105 Tobacco Product Deeming Rule, supra note 2, at 29043 (“Liquid nicotine does not have flavorings or other ingredients added to it. E-cigarette liquid (or “e-liquid”) is a liquid containing nicotine, flavorings, and/or other ingredients.”).

106 Tobacco Deeming Rule, supra note 2, at 28975.

107 Id. at 29015 (“As stated in the NPRM, accessories of newly deemed products are not deemed with this final rule.”).

108 Id. at 29015.

109 Id. at 29016.

110 Id. at 29017 (responding to comment 71).

111 Id. at 29032; id. at 29015 (explaining that in determining what is a component, “FDA can consider the totality of the circumstances, including direct and circumstantial objective evidence, which encompasses a variety of factors such as circumstances surrounding the distribution of the product or the context in which it is sold.”)


113 Id.


117 Id.

118 N.Y. PUB. HEALTH LAW § 1399-aa(13) (McKinney 2016).

119 N.Y. PUB. HEALTH LAW § 1399-cc(3) (McKinney 2016).


121 N.Y. PUB. HEALTH LAW § 1399-cc(3) (McKinney 2016).

122 N.Y. PUB. HEALTH LAW § 1399-cc(2) (McKinney 2016).

123 N.Y. PUB. HEALTH LAW §§ 1399-cc(7), 1399-dd (McKinney 2016).

124 N.Y. PUB. HEALTH LAW § 1399-cc(1)(e) (McKinney 2016).

126 N.Y. PUB. HEALTH LAW § 1399-gg (McKinney 2016).


128 N.Y. GEN. BUS. LAW § 349 (McKinney 2016).

129 N.Y. GEN. BUS. LAW § 350-a (McKinney 2016).


134 See *Sottera*, 627 F.3d at 904 (finding that e-cigarettes properly are regulated as a tobacco product by the FDA); Tobacco Product Deeming Rule, *supra* note 2, at 29028-29044 (setting forth regulation of e-cigarettes).


142 N.Y. CITY, N.Y. ADMIN. CODE § 17-513.3 (2016).


144 DUTCHESS CNTY, N.Y. SANITARY CODE § 25.3 (2016).


146 CAYUGA CNTY, N.Y. LOCAL LAW 5 of 2013, § 3 (2013).


150 2014 SURGEON GENERAL REPORT, *supra* note 1; Marynak et al., *supra* note 7.

151 King, *supra* note 138.

152 See *supra* note 102 and accompanying text. Examples of components and parts of e-cigarettes include: e-substances, a glass or plastic vial container of e-liquid, cartridges, atomizers, certain batteries, cartomizers, clearomizers, digital display or lights to adjust settings, tank systems, drip tips, flavorings for e-cigarettes, programmable software. Tobacco Product Deeming Rule, *supra* note 2, at 29015.
153 See Tobacco Product Deeming Rules, supra note 2, at 29102 (“‘Accessory’ means any product that is intended or reasonably expected to be used with or for the human consumption of a tobacco product; does not contain tobacco and is not made or derived from tobacco; and meets either of the following: (1) is not intended or reasonably expected to affect or alter the performance, composition, constituents, or characteristics of a tobacco product; or (2) is intended or reasonably expected to affect or maintain the performance, composition, constituents, or characteristics of a tobacco product but (a) solely controls moisture and/or temperature of a stored tobacco product; or (b) solely provides an external heat source to initiate but not maintain combustion of a tobacco product.”)

154 For discussion of components and parts, see infra Federal Controls, pp.11-12; see also Glossary infra Appendix A.

155 Sleiman et al., supra note 65, at 9645.


160 2014 SURGEON GENERAL’S REPORT, supra note 1, at Message from Howard Koh; Ctrs. for Disease Control and Prevention, Youth and Tobacco Use, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/.


Local Regulation of E-cigarettes


170 See Charlotte A. Schoenborn et al., *Electronic Cigarette Use among Adults: United States, 2014*, NAT’L CTR. FOR HEALTH STATISTICS DATA BRIEF No. 217 (October 2015) (finding that among adults, recent former smokers and current smokers who had unsuccessfully tried to quit in the last year were more likely to use e-cigarettes).

171 E.g., *Take Back Your Freedom Featuring Stephen Dorff-Brought to You by Blu Electronic Cigarettes* (Mar 5, 2013), https://www.youtube.com/watch?v=gGAhXv23MEs&oref=https%3A%2F%2F ("You can smoke at a basketball game if you want to. And how about not having to go outside every 10 minutes when you’re at a bar with your friends? The point is, you can smoke Blu virtually anywhere."); See Americans for Nonsmokers’ Rights, Statement on FDA Electronic Cigarette Regulations (August 8, 2016) (expressing concern that e-cigarettes are being marketed as something that can be used in workplace despite smoke-free laws); see also Sara Kalkhoran & Stanton A Glantz, *E-cigarettes and Smoking Cessation in Real-World and Clinical Settings: a Systematic Review and Meta-analysis*, 4 LANCET RESPIR. MED. 116, 116 (2016) (reporting nicotine use in areas where smoking is prohibited as a motivating factor driving e-cigarette use).


175 U.S. FOOD & DRUG ADMIN., SUMMARY OF RESULTS: LABORATORY ANALYSIS OF ELECTRONIC CIGARETTES CONDUCTED BY FDA (last updated Apr. 22, 2014) http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm173146.htm (last visited Aug. 12, 2016); see Tianrong Cheng, *Chemical Evaluation of Electronic Cigarettes*, 23 TOBACCO CONTROL II11, II16 (2014) (finding nicotine content may vary considerably from label information).

56

Local Regulation of E-cigarettes


183 See Sara Kalkhoran et al., Dual Use of Smokeless Tobacco or E-cigarettes with Cigarettes and Cessation, 39 AM. J. HEALTH BEHAV. 277 (2015) (citing evidence of dual use based on belief smokeless tobacco aids cessation); Scott L. Tomar et al., Patterns of Dual Use of Cigarettes and Smokeless Tobacco among US Males: Findings from National Surveys, 19 TOBACCO CONTROL 104, 104 (2009) (finding patterns of dual use of cigarettes and snuff tobacco among both youth and adults.)


Local Regulation of E-cigarettes


197 James Repace, Benefits of Smoke-Free Regulations in Outdoor Settings: Beaches, Golf Courses, Parks, Patios, and in Motor Vehicles, 34 WILLIAM MITCHELL LAW REVIEW 1621, 1626 (2008).


201 James B. Mowry et al., 2013 Annual report of the American Association of Poison Control Centers’ National Poison Data System (NPDS): 31st Annual report, 52 CLINICAL TOXICOLOGY 1032, 1234, Table 22A (2013).

202 See Thomas E. Novotny et al., Tobacco and Cigarette Butt Consumption in Humans and Animals, 20(Supp. 1) TOBACCO CONTROL i17, i17 (2011); Kevin Chatham-Stephens et al., Notes from the Field: Calls to Poison Centers for Exposures to Electronic Cigarettes – United States, September 2010-February 2014, 63 MORBIDITY AND MORTALITY WEEKLY REPORT 292, 292 (April 4, 2014).


204 N.Y. TAX LAW § 480-a (McKinney 2016).


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210 See Ollie Ganz et al., Electronic Cigarette Advertising at the Point-of-Aisle: a Gap in Tobacco Control Research, 24 TOBACCO CONTROL e110, e111 (2015); see also Kimberly Leonard, E-Cigarette Use Triples Among Teens, USA TODAY, April 16, 2015, (quoting CDC Director Tom Frieden discussing the alarming spike in youth e-cigarette use and the impact of heavy marketing by manufacturers); see also Jessica K. Pepper et al., Effects of Advertisements on Smokers’ interest in Trying E-Cigarettes: the Roles of Product Comparison and Visual Cues, 23 TOBACCO CONTROL iii31, ii31 (2014) (smokers appear to positively respond to e-cigarette advertisements).

211 N.Y. PUBLIC HEALTH LAW § 1399-cc(2) (McKinney 2016).

212 Press Release, Ctrs. for Disease Control and Prevention, E-cigarette use triples among middle and high school students in just one year, supra note 37; see also Arrazola et al., supra note 34, at 381.

213 Dutra and Glantz, supra note 35, at 610; Leventhal et al., supra note 39, at 706; Wills et al., supra note 39; Brian A. Primack et al., Progression to Traditional Cigarette Smoking After Electronic Cigarette Use Among US Adolescents and Young Adults, 169 JAMA PEDIATRICS 1018, 1018 (2015); see Graham F. Moore et al., E-Cigarette Use and Intentions to Smoke among 10-11-year-old Never-smokers in Wales, TOBACCO CONTROL ONLINE FIRST at 147 (Dec. 22, 2014) (finding e-cigarette use is associated with weaker antismoking intentions); see also Andrea C. King et al., Passive Exposure to Electronic Cigarette (E-Cigarette) Use Increases Desire for Combustible and E-Cigarettes in Young Adult Smokers, TOBACCO CONTROL ONLINE FIRST (May, 21, 2014); see also Bunnell et al., supra note 45, at 6 (finding e-cigarette use among never-smokers is associated with intentions to smoke); c.f. Abigail S. Friedman, How Does Electronic Cigarette Access Affect Adolescent Smoking?, 44 J. HEALTH ECON. 300, 300 (2015) (finding youth smoking decreases with access to e-cigarettes).

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216 Id.

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220 See, e.g., NEWBURGH, N.Y. CODE § 276-2 (2016) (requiring retail dealers to be in a fixed location).
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Outlet Density: a New Frontier for Tobacco Control, 104 ADDICTION 2, 3 (2009); Sharon Lipperman-Kreda et al.,
Local Tobacco Policy and Tobacco Outlet Density: Associations with Youth Smoking, 50 J. ADOLESC. HEALTH 547, 552 (2012).

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235 Cf. Novak, supra note 175, at 670, 674 (“A final contribution of this study is that previous research focused primarily on the link between retail tobacco access and underage smoking, but retail outlets also provide a source of cigarettes to those legally permitted to purchase tobacco. Past studies have suggested that retail access becomes a more important determinant of smoking behavior as youths grow older. We found no difference in the effect of retail tobacco outlet density and rates of smoking between minors and those legally permitted to purchase cigarettes.”).

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238 Katz, Banning Tobacco Sales, supra note 165, at 1451.


240 Tobacco Product Deeming Rule, supra note 2, at 28976; N.Y. PUB. HEALTH LAW §§ 1399-aa to 1399-mm (McKinney 2016).

241 Arrazola et al., supra note 47, at 381 (finding that e-cigarettes are the most commonly used tobacco product among middle and high school students).

242 Id. at 384.


245 Dutra and Glantz, supra note 29, at 610; Leventhal et al., supra note 39, at 706; Wills et al., supra note 39; Primack et al., supra note 166, at 1018 (2015); see Moore et al., supra note 166 (finding e-cigarette use is associated with weaker antismoking intentions); see also King et al., supra note 166; see also Bunnell et al., supra note 45, at 6 (finding e-cigarette use among never-smokers is associated with intentions to smoke); c.f. Friedman, supra note 166, at 300 (finding youth smoking decreases with access to e-cigarettes).

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287 Hyland, supra note 32 (reporting an additional stated reason for using flavored e-cigarettes is “I like it” and, separately, that if one’s first tobacco use was a flavored product, then one is more likely to be current tobacco user).

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Id.

King et al., supra note 165.

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BUFFALO, N.Y. CODE §§ 399-8 & 399-14 (2016); PUTNAM CNTY, N.Y. LOCAL LAW 6 OF 2015 § 1 (2015); SUFFOLK CNTY, N.Y. LOCAL LAW §§ 752-2 and 752-3 (2016); TOMPKINS CNTY, N.Y. LOCAL LAW §§ 72-6 and 72-7 (2016).


E.g. ULSTER CNTY, N.Y. LOCAL LAW No. 17 of 2014 (2014); ONTARIO CNTY, N.Y. LOCAL LAW No. 2 of 2016 (2016); SCHUYLER CNTY, N.Y. RESOLUTION No. 175 (2015)
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