Health Impacts and Taxation of Electronic Cigarettes

Report prepared in response to HR109

Prepared by:

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LOUISIANA DEPARTMENT OF HEALTH

Contents

Executive Summary

This report is submitted pursuant to House Resolution 109 of the 2018 Legislative Session, which was authored by Representative Hoffmann. HR109 requested that the Louisiana Department of Health (LDH) continue to study the following issues associated with electronic cigarettes (e-cigarettes) and other vapor products:

1. The health impacts associated with the use of e-cigarettes.
2. Whether the use of e-cigarettes should be promoted as a safe and effective means of quitting smoking.
3. The rates at which e-cigarettes are taxed in each U.S. state.

Key highlights from this report include the following:

- The diversity and continuous development of e-cigarette products (different origins and design) and the varied ways in which consumers use these products, make the development of a standard measurement regarding the health impact and taxation of e-cigarettes challenging (Brown & Cheng, 2014). The Louisiana Office of Alcohol and Tobacco Control has identified that many of the products sold can contain additives which are added at the retail level with no supervision or control.

- From 2017 to 2018, current e-cigarette use has increased by almost 80% among high school students and 50% among middle school students. Over the past year, there is growing popularity of e-cigarettes shaped like a USB flash drive, such as JUUL. The FDA is currently working on an action plan to "firmly confront and reverse the youth addiction trends that are at epidemic levels" (Wang et al, 2018; FDAd, 2018).

- Carcinogens and biomarkers in tobacco smoke have been found in e-cigarettes (National Academies of Sciences, Engineering, and Medicine, 2018). Little is known about the long-term health effects of using e-cigarettes, but preliminary findings indicate that the inhalation of their aerosols can restrict the airways and promote the formation of reactive oxygen species/oxidative stress, which has the potential to lead to lung damage. Research has found that short-term usage of e-cigarettes may lead to nicotine addiction, developmental effects on the brain, behavioral or psychosocial harms, cardiovascular effects, and pregnancy complications (U.S. Department of Health and Human Services, 2016).

- Any e-cigarette use among young people is unsafe. Because brain development begins in the womb and continues until about age 25, youth consumers are particularly vulnerable to the consequences of nicotine exposure. Nicotine exposure during adolescence can impact learning, memory, and attention, as well as increase drug seeking behaviors (U.S. Department of Health and Human Services, 2018 and 2016).

- There has yet to be conclusive evidence indicating e-cigarettes as an effective approach to cessation. The FDA has not approved E-cigarettes as a quit smoking aid. Preliminary studies have shown a prevalence and pattern of dual use (use of conventional cigarettes and e-cigarettes). However, if a smoker transitions completely to e-cigarettes, e-cigarettes have been shown to be significantly less harmful among adult non-pregnant conventional cigarette smokers (National Academies of Sciences, Engineering, and Medicine, 2018).

- Unlike conventional cigarettes, e-cigarette products are taxed differently across states. Nine states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands currently tax e-cigarette products, each at different rates. Louisiana issues a specific tax on e-cigarette products at a rate of $0.05 per milliliter of e-liquid (Public Health Law Center, 2018).

Section 1 – Background

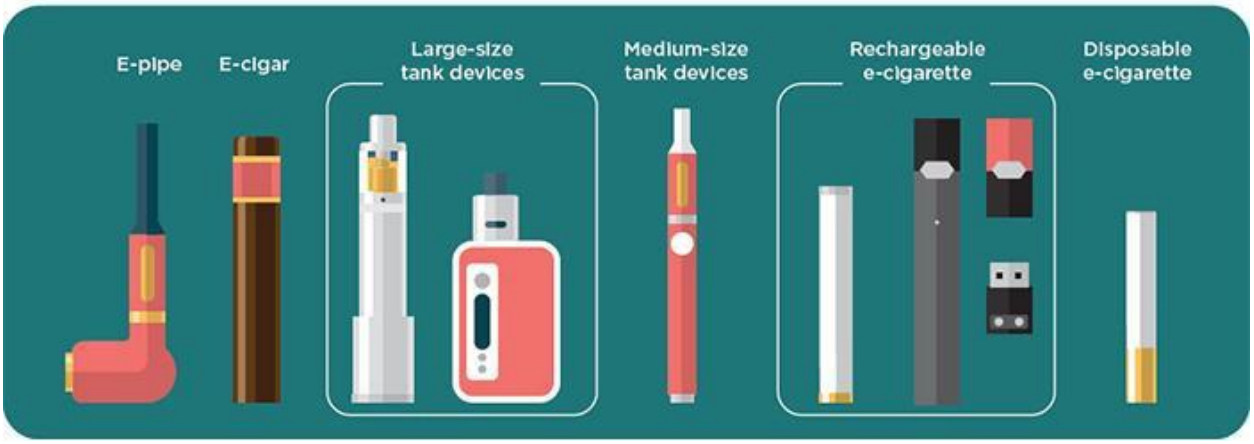
1.1 – The Evolution of the Electronic Cigarette

The discovery that smoking causes lung cancer can be viewed as the first and most important advance in chronic disease etiology (Remington & Brownson, 2011). Entrepreneurs made early efforts in the 1880s and 1890s to promote novel products that allegedly blocked or filtered nicotine (U.S. Department of Health and Human Services, 2016). A variation and patent of a smokeless nontobacco cigarette first appeared in 1963 by Herbert A. Gilbert; officially patented in 1965. The intention was to replace burning tobacco paper with a battery-powered heating element to heat flavored elements without combustion (Gilbert, 1965; U.S. Department of Health and Human Services, 2016). In 2003, Chinese pharmacist Hon Lik developed the electronic cigarette (e-cigarette). In 2004, e-cigarettes entered the Chinese market, gaining attention from Chinese smokers as a potential cessation device or an alternative cigarette product (Hon, 2013; Sanford & Goebel, 2014; U.S. Department of Health and Human Services, 2016). The e-cigarette was soon introduced in the U.S., and by 2007, sales of e-cigarettes had risen rapidly. By 2010, competing brands of e-cigarettes began to appear in the American market (U.S. Department of Health and Human Services, 2016).

1.2 – Definition of E-Cigarette

E-cigarettes are electronic nicotine delivery systems (ENDS) which allow users to inhale an aerosol into their lungs typically containing nicotine, flavorings and other additives (CDC*a*, 2017). All devices are composed of a battery, a heating element and a place to hold a liquid. While e-cigarettes operate similarly, they often come in many shapes and sizes. Figure 1.2.1 shows the diversity of e-cigarette products by size and type of devices (CDC*a*, 2017). E-cigarette names often differ across geographic regions, as well as by consumers and companies developing the product based on personal preference. Examples of varying names of e-cigarettes by consumers and companies are e-cigarettes, e-cigs, JUUL, cigalikes, e-hookahs, mods, vape pens, vapes and tank systems (Richtel, 2014; Lempert et al., 2016) . Throughout the report, the term e-cigarette will be used to cover the broad range of ENDS products.

Figure 1.2.1: Diversity of E-Cigarette Products



Source: Illustration from the Centers for Disease Control (CDC)

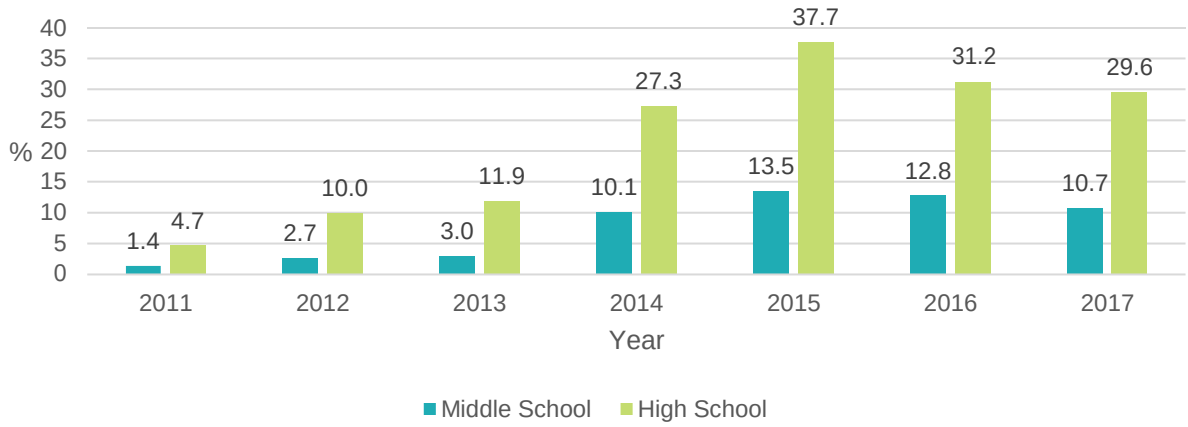
1.3–National YouthE-Cigarette Prevalence

Prevalence rates of e-cigarette use among youth in America can be gathered from the National Youth Tobacco Survey (NYTS). The NYTS is a nationally representative survey of tobacco use among middle and high school students in the U.S. E-cigarette "ever-use" is defined as whether the respondent had ever tried e-cigarettes. Current users are defined as whether the respondent had used e-cigarettes at least once in the past 30 days.

TrendsinNationalYouth Ever-Use

The NYTS started collecting data on e-cigarettes in 2011. Figure 1.3.1 (below) shows the trend in e-cigarette ever-use from 2011 to 2017. Approximately 1.4% of middle school students in 2011 reported having ever-used e-cigarettes. NYTS from subsequent years showed a nonlinear increase until 2015 where it peaked at 13.5%. Following 2015, we see a drop to 12.8% in 2016 and another drop to 10.7% in 2017. This trend is similar among high school students. Only 4.7% reported having ever-used e-cigarettes in 2011, but this number significantly spiked in 2014 to 27.3% and to 37.7% in 2015. It began to decline in 2016 to 31.2% and to 29.6% in 2017.

Figure 1.3.1
Percentage of middle and high school students who have ever used an e-cigarette from 2011 to 2017 according to the National Youth Tobacco Survey



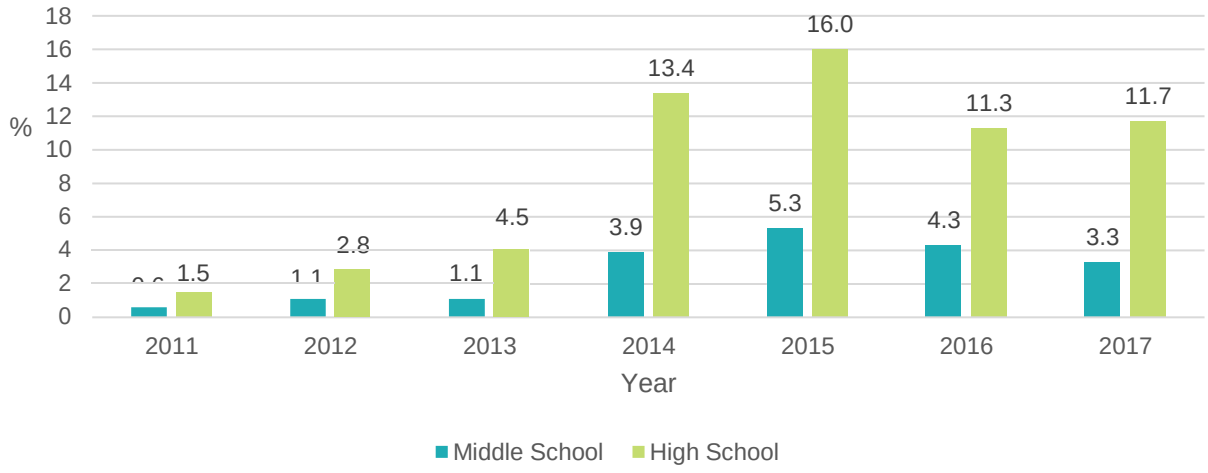
Source: 2011, 2012, 2013, 2014, 2015, 2016, 2017 NYTS

Trends in National Youth Current Use

Figure 1.3.2 (below) shows the prevalence of current users of e-cigarettes among middle and high school students in America. Among middle school students in 2011, 0.6% reported having used e-cigarettes at least once in the past 30 days. This number stayed relatively the same until a dramatic increase in 2014 to 3.9% and in 2015 to 5.3%; the number then decreased to 4.3% in 2016 and to 3.3% in 2017. The trend is similar among high school students. In 2011, 1.5% reported being current users. In 2014, this number increased dramatically to 13.4% and to 16.0% in 2015, then 11.3% in 2016 and increases slightly to 11.7% in 2017. The increase from 2013 to 2014 for both middle and high school students can partially be attributed to a change in how the question was asked in the survey (U.S. Department of Health and Human Services, 2016). The previous question used to measure ever-use, asked students the number of e-cigarettes they have ever used. The current question asks students if they ever tried e-cigarettes.

However, according to the 2016 Surgeon General's report on "E-cigarette Use among Youth and Young Adults," this increase is still indicative of a major change in a relatively short 5-year period.

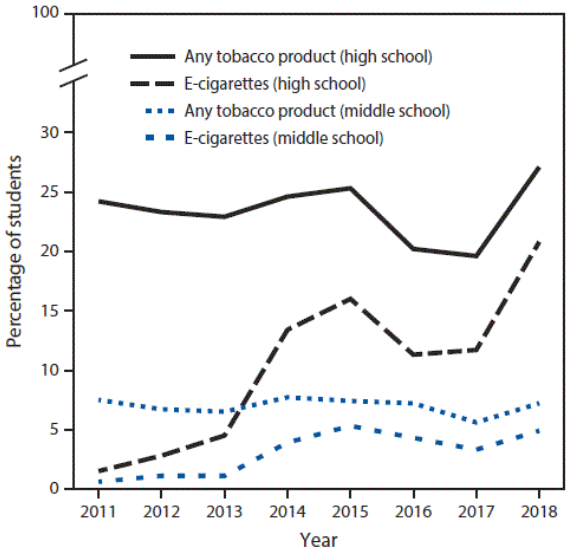
Figure 1.3.2
Percentage of middle and high school students who currently use e-cigarettes from 2011 to 2017 according to the National Youth Tobacco Survey.



Source: 2011, 2012, 2013, 2014, 2015, 2016, 2017 NYTS

A preliminary breakdown of the not yet released 2018 NYTS data indicates that e-cigarette use surged from 2017 to 2018 (Figure 1.3.3). From 2017 to 2018, current-use of e-cigarettes increased by 78% among high school students (from 11.7% to 20.8%), and increased by 48% (from 3.3% to 4.9%) among middle school students (Cullen, Ambrose, Gentzke, Apelberg, & Jamal, 2018).

Figure 1.3.3: Percentage of middle and high school students who currently use e-cigarettes and any tobacco product according to the NYTS, 2011-2018

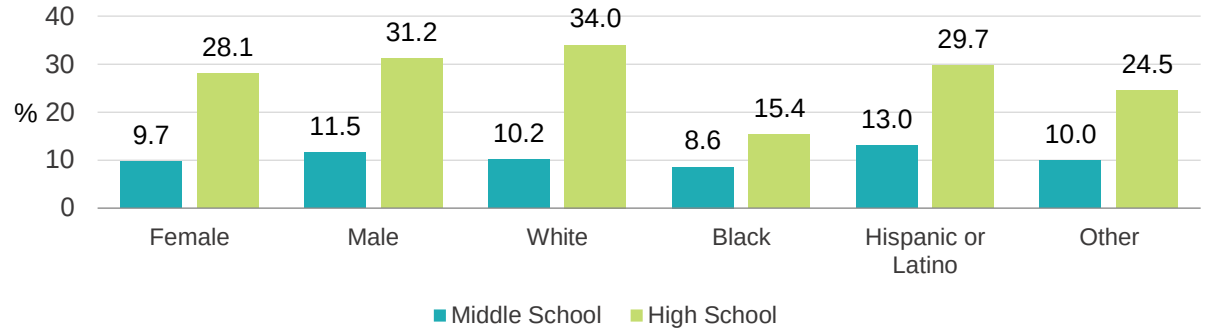


Source: Graph from Cullen, Ambrose, Gentze, Apelberg, & Jamal, 2018

Demographics of National Youth E-Cigarette Prevalence

According to the 2017 NYTS, prevalence rates of e-cigarette ever-use and current-use is higher among high school students than middle school students. Figure 1.3.4 (below) shows the demographic breakdown of e-cigarette ever-use by school level. For both middle and high school students, males (11.5% and 31.2%) have higher ever-use rates than females (9.7% and 28.1%). White students have the highest rate of ever-use among high school students followed by Hispanic or Latino, other, and black. Hispanic or Latino students have the highest rate of ever-use among middle school students followed by white, other, and black.

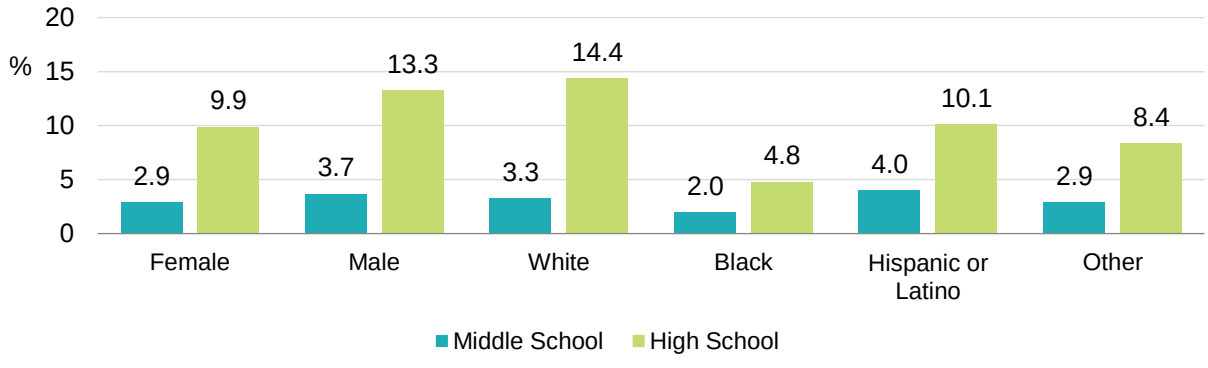
Figure 1.3.4
Percent of MS and HS students in the US who have ever used e-cigarettes by demographic group according to the 2017 NYTS



Source: 2017 NYTS

Figure 1.3.5 (below) shows the same demographic breakdown for e-cigarette current users. The results are similar to ever-use. A larger percentage of males are current users of e-cigarettes compared to females. Among high school students, white, Hispanic and other races currently use e-cigarettes at a significantly higher rate than individuals who identify as black. This racial disparity is less pronounced among middle school students as the rates among white (3.3%), black (2.0%), and other race (2.9%) are relatively similar. Hispanic or Latino middle school students, however, have a slightly higher prevalence rate at 4.0%.

Figure 1.3.5
Percent of middle and high school students who currently us e-cigarettes in 2017 by demographic group according to the National Youth Tobacco Survey

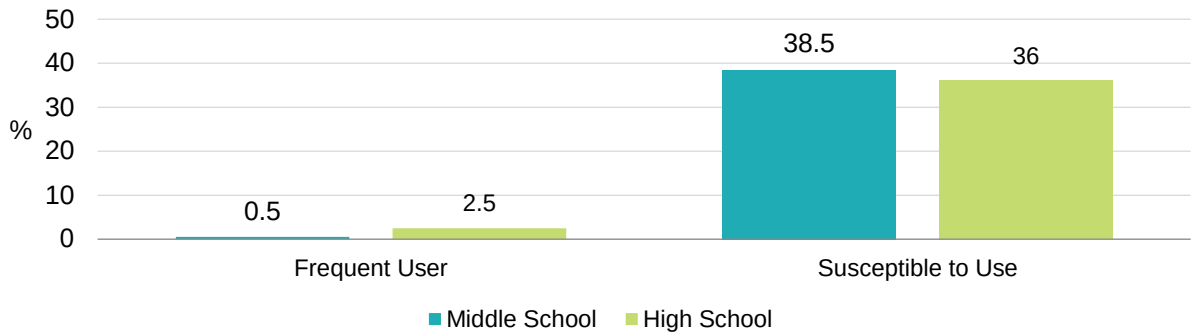


Source: 2017 NYTS

National Youth E-Cigarette Usage Characteristics

Figure 1.3.6 (below) shows additional characteristics of e-cigarette use among middle and high school students surveyed in the 2017 NYTS. Frequent users in the survey are defined as persons who used e-cigarettes 20 or more days in the past month. As shown, a significantly low percentage of students frequently use e-cigarettes: 0.5% among middle school students and 2.5% among high school students. Figure 1.3.5 shows youth susceptibility to e-cigarette use as well. Susceptibility is defined as those who failed to respond "definitely not" to any of the following questions: (a) "Do you think that you will try an electronic cigarette or e-cigarette soon?"; (b) "If one of your best friends were to offer you an electronic cigarette or e-cigarette, would you use it?"; or (c) "Have you ever been curious about using an electronic cigarette or e-cigarette, even once or twice?". As shown in the table, 38.5% of middle school students and 36% of high school students are susceptible to using e-cigarettes in the near future.

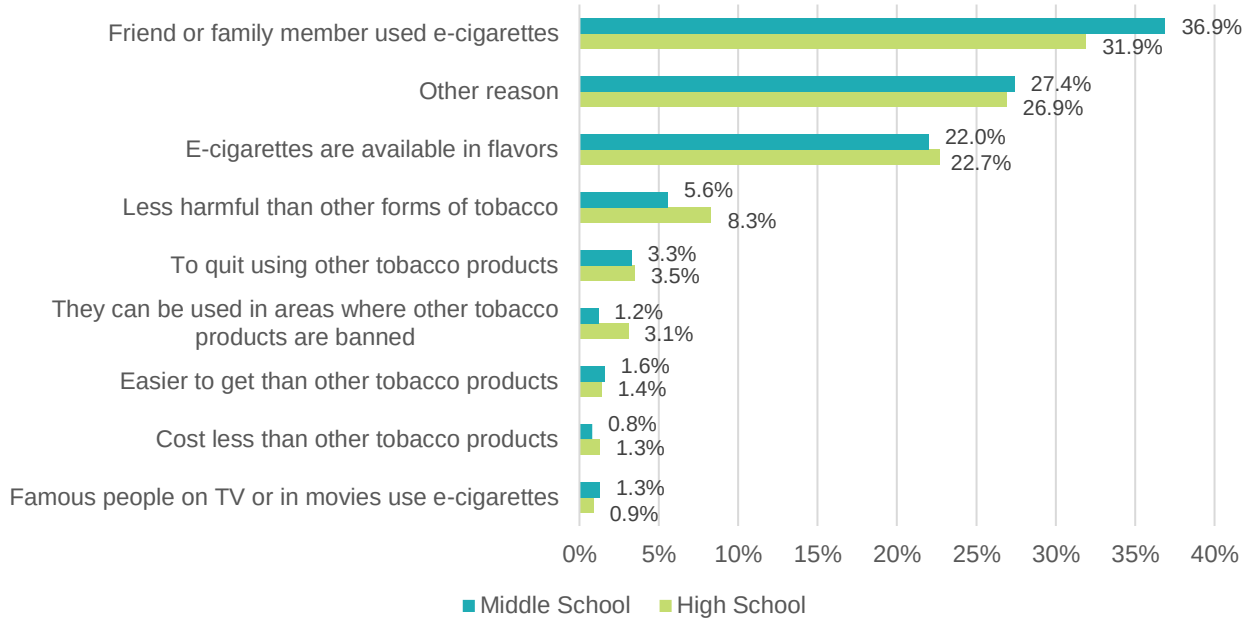
Figure 1.3.6
Percent of middle and high school students considered to be frequent e-cigarette users or susceptible to e-cigarette use according to the 2017 National Youth Tobacco Survey.



Source: 2017 NYTS

Figure 1.3.7 (below) indicates the reasons that middle school and high school students use e-cigarettes. The most common reported reason was because a friend or family member used e-cigarettes, followed by other reasons and that e-cigarettes are available in flavors.

Figure 1.3.7
Reasons middle and high school students are using e-cigarettes, according to the 2017 NYTS.



Source: 2017 NYTS

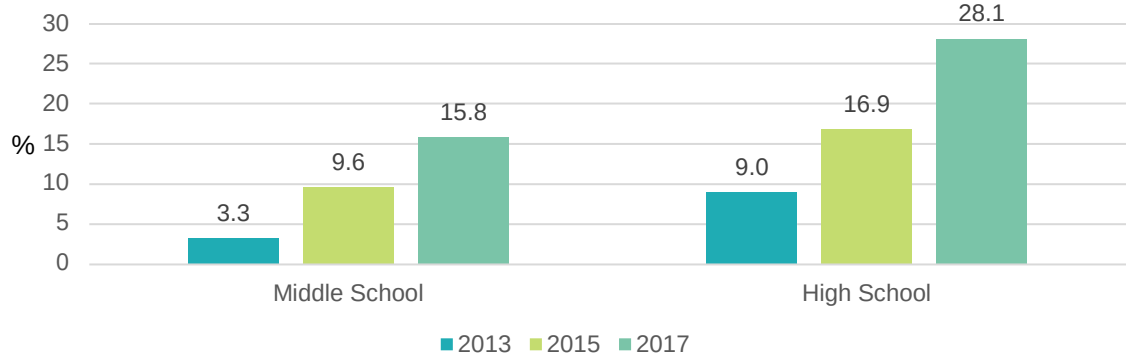
1.4 – Louisiana Youth E-Cigarette Prevalence

Information on youth tobacco use in Louisiana has been collected biennially in the Louisiana Youth Tobacco Survey (LYTS) since 2013. Definitions of e-cigarette ever-use, current-use, frequency of use, and susceptibility to beginning use follow that of the NYTS.

Trends in Louisiana Youth Ever-Use

The percentage of middle and high school students who reported ever-using e-cigarettes in the LYTS increased dramatically from 2013 to 2017. Shown in Figure 1.4.1 below, in 2013, only 3.3% of middle school students reported ever-use. This rate increased to 15.8% in 2017. Similarly, the 9.0% prevalence rate among high school students in 2013 increased to 28.1% in 2017. Using the 2017 LYTS and NYTS, we can compare the Louisiana rates to the national rates. Ever-use among high school students in Louisiana was slightly lower than the U.S. (28.1% LA; 29.6% U.S.), while ever-use among middle school students in Louisiana is significantly higher than the U.S. (15.8% LA; 10.7% U.S.).

Figure 1.4.1
Percentage of Louisiana middle and high school students who have ever used e-cigarettes from 2013 to 2017 according to the LYTS

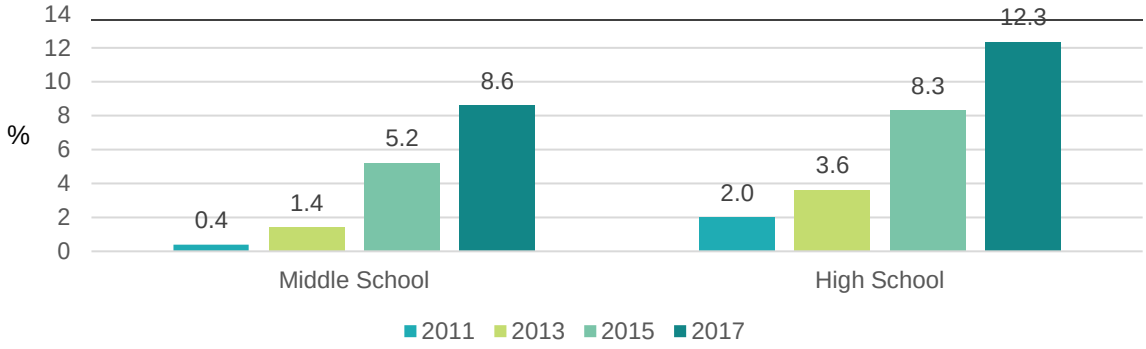


Source: 2013, 2015, 2017 LYTS

Trends in Louisiana Youth Current Use

Although the LYTS did not include data on e-cigarette ever-use prior to 2013, the survey did gather information on current users of e-cigarettes in 2011. The current-use trend is similar to ever-use shown in Figure 1.4.2. Rates of current use increased non-linearly from 2011 to 2017. Among middle school students, 0.4% in 2011, 1.4% in 2013, 5.2% in 2015, and 8.6% in 2017 reported using e-cigarettes at least once in the past 30 days. The rates for high school students in Louisiana were 2.0% in 2011, 3.6% in 2013, 8.3% in 2015, and 12.3% in 2017. Compared to the national prevalence in 2017 gathered by the NYTS, Louisiana had significantly higher rates among middle school students (8.6% LA; 3.3% US), and comparable rates among high school students (12.3% LA; 11.7% US).

Figure 1.4.2
Percent of Louisiana middle and high school students who currently use e-cigarettes from 2011 to 2017 according to the LYTS



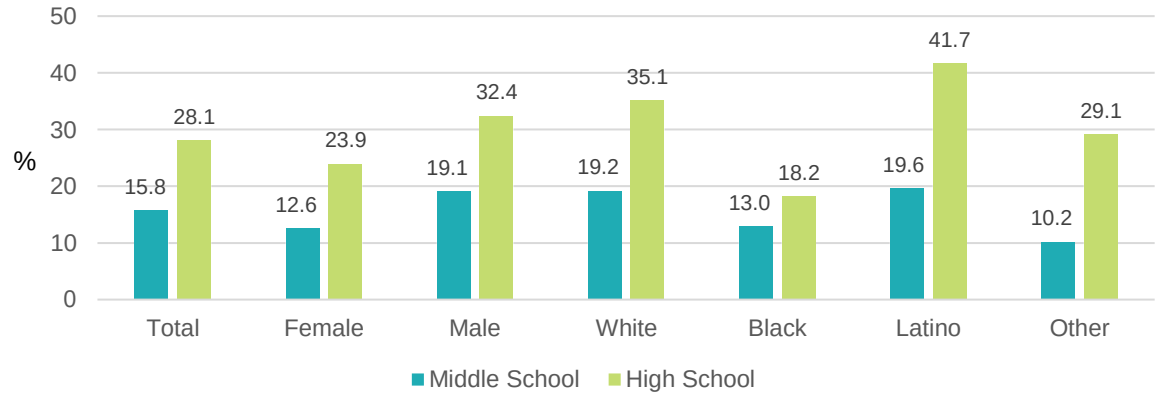
Source: 2011-2017 LYTS

Demographics of Louisiana Youth E-Cigarette Prevalence

According to the LYTS in 2017, 15.8% of middle school students and 28.1% of high school students have ever used e-cigarettes. For current users, 8.6% of middle school students and 12.3% of high school students reported using e-cigarettes in the last 30 days. These prevalence rates can be seen in Figures

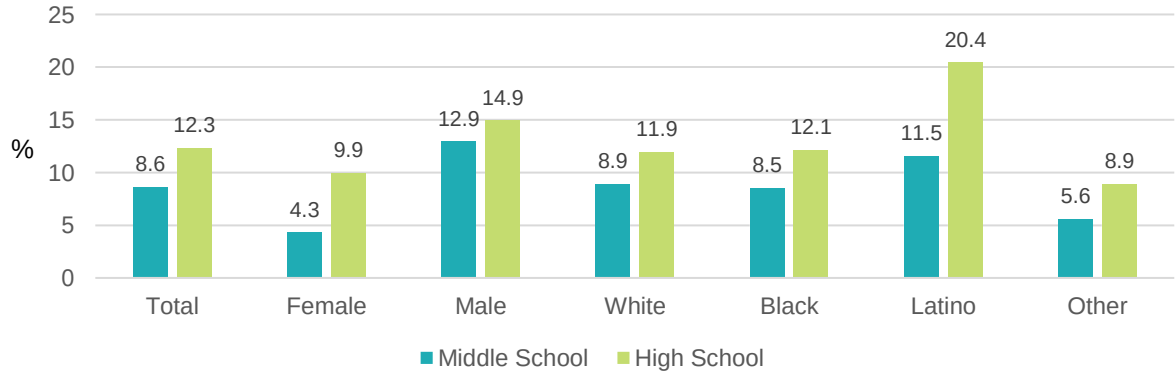
1.4.3 and 1.4.4 (below). Additionally, demographic breakdowns are shown in these tables. For both school levels, males have higher rates of ever-use and current-use than females. For instance, among high school students, almost a third of males reported ever using e-cigarettes and approximately 14.9% reported being current users. For high school females, about a quarter reported having ever used e-cigarettes and 1 out of 10 females reported being current users. According to the racial breakdowns of ever-use and current-use, whites and Hispanic/Latinos have the highest rates of ever-use for both middle and high school students. In terms of current-use, Hispanic/Latinos use e-cigarettes with prevalence rates almost double that of white and black respondents.

Figure 1.4.3
Percentage of Louisiana middle and high school students who have ever used e-cigarettes by demographic groups according to the 2017 LYTS.



Source: 2017 LYTS

Figure 1.4.4
Percent of Louisiana middle and high school students who currently use e-cigarettes by demographic groups according to the 2017 LYTS.

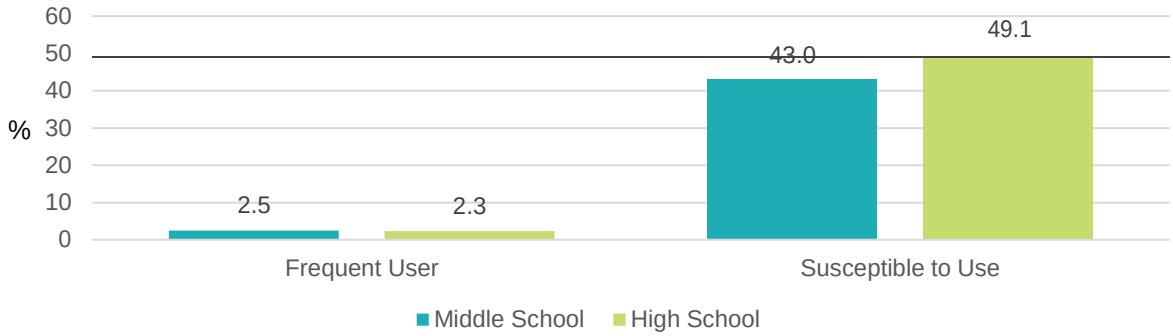


Source: 2017 LYTS

Louisiana Youth E-Cigarette Usage Characteristics

Similar to the national averages, few middle school (2.5%) and high school (2.3%) students reported being frequent users of e-cigarettes. These rates are shown in Figure 1.4.5 (below).

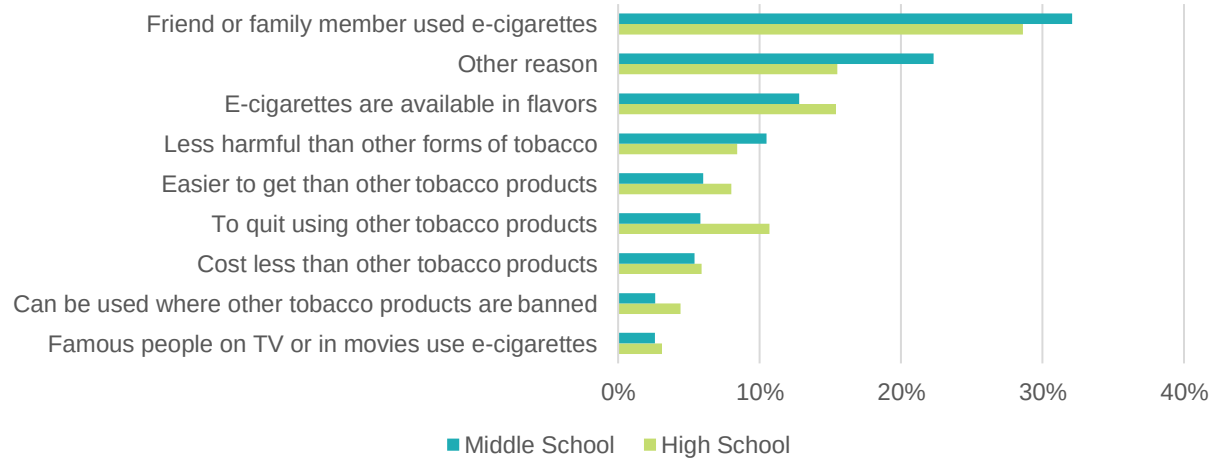
Figure 1.4.5
Frequent use and susceptibility to e-cigarette use among LA students according to the 2017 LYTS.



Source: 2017 LYTS

However, youth in Louisiana reported being more susceptible to future use of e-cigarettes than the national sample. Figure 1.4.6 (below) shows reasons for using e-cigarettes reported by middle and high school students in the 2017 LYTS sample. Over a quarter of respondents for both school levels reported using e-cigarettes because a friend or family member also used them. Other common reasons included the available flavors and the respondents' belief that e-cigarettes are less harmful than other forms of tobacco.

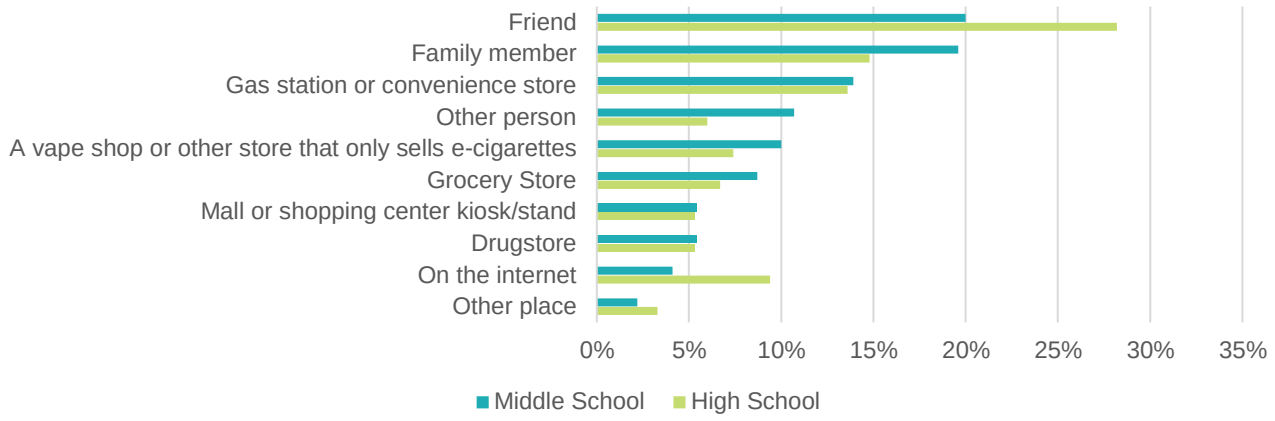
Figure 1.4.6
Reasons Louisiana middle and high school students are using e-cigarettes, according to the 2017 LYTS.



Source: 2017 LYTS

Figure 1.4.7 (below) shows where respondents are attaining their e-cigarettes. Both middle and high school students are most likely to get e-cigarettes from friends or family, followed by gas stations and convenience stores.

Figure 1.4.7
Where Louisiana middle and high school students are purchasing e-cigarettes, according to the 2017 Louisiana Youth Tobacco Survey.

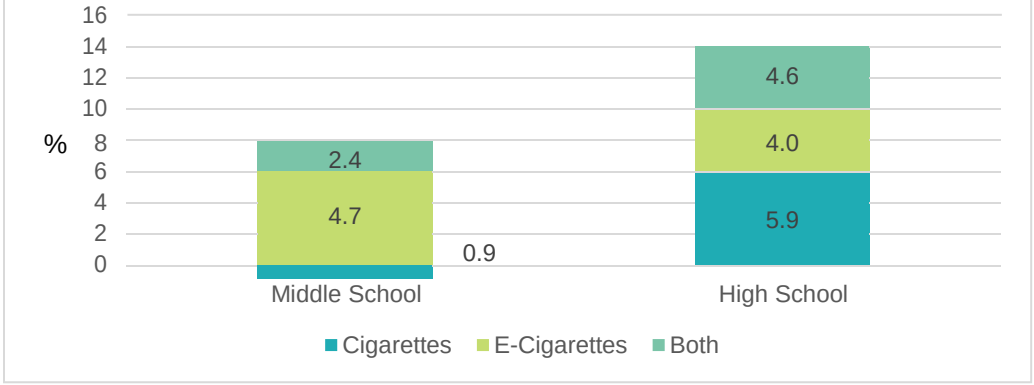


Source: 2017 LYTS

Dual Use Among Louisiana Youth

Figure 1.4.8 (below) shows the percentage of students who use e-cigarettes, cigarettes, or both. This data was collected from the 2017 LYTS. Approximately 0.9% of middle school students reported using cigarettes, 4.7% e-cigarettes, and 2.4% dual use. The use of cigarettes appears more popular among high school students. Approximately 5.9% use cigarettes, 4.0% use e-cigarettes, and 4.6% use both.

Figure 1.4.8
Percent of Louisiana middle and high school students who use cigarettes, e-cigarettes, or both according to the 2017 Louisiana Youth Tobacco Survey.



Source: 2017 LYTS

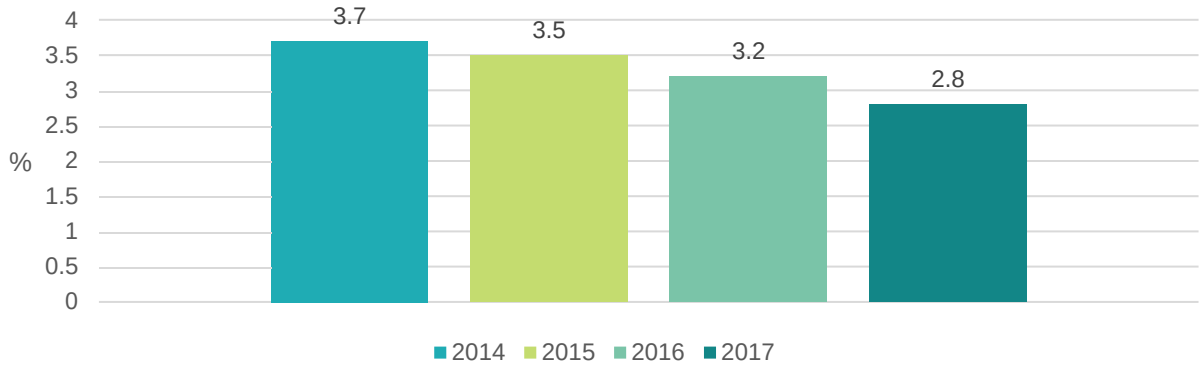
1.5–National Adult E-Cigarette Prevalence

National prevalence rates of e-cigarette use among adults are gathered from the National Health Interview Survey (NHIS). This survey first began collecting e-cigarette use in 2014. As a result, trend analyses of national e-cigarette use is minimal.

Trends in National Adult CurrentUse

Figure 1.5.1 below shows the trend of current e-cigarette usage among adults living in the U.S. Current use is defined as adults who use e-cigarettes every day or some days at the time of the interview. The prevalence has steadily declined from the first year e-cigarette data was collected (2014: 3.7%) up until the most recent available data (2017: 2.8%).

Figure 1.5.1
Percent of adults who have currently use e-cigarettes according to NHIS 2014-2017

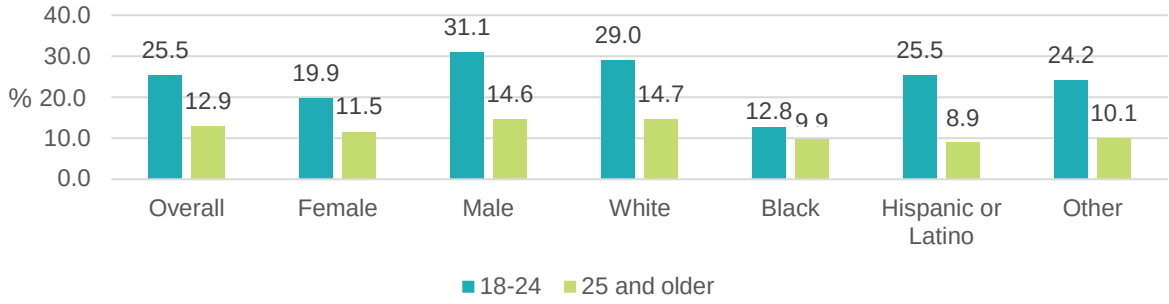


Source: 2014, 2015, 2016, 2017 NHIS

Demographics of National Adult E-Cigarette Prevalence

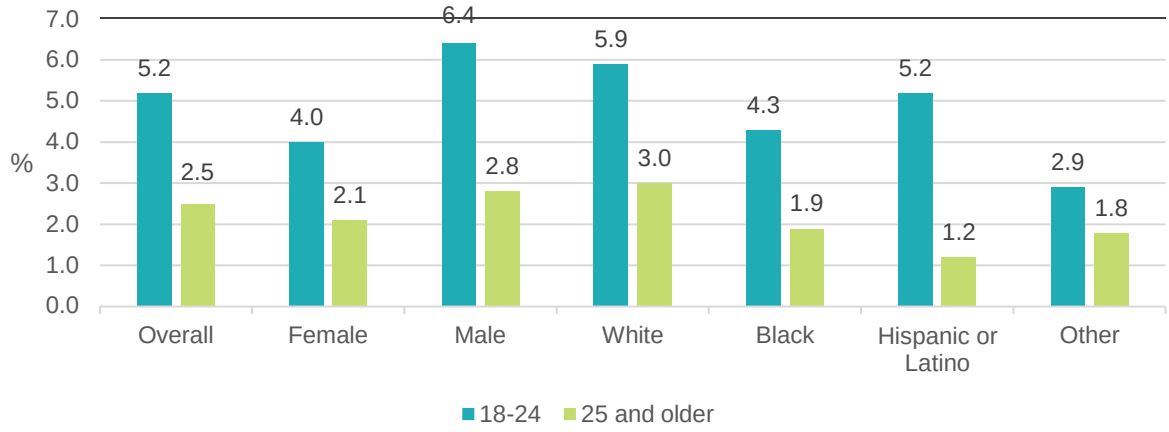
Figures 1.5.2 and 1.5.3 below show the demographic breakdown of current and ever e-cigarette usage among young adults 18-24 and adults 25 and older. Young adults have higher rates of e-cigarette use within every demographic group. According to the data, white adults 25 and older were statistically, significantly more likely to have ever used e-cigarettes than any other race. Additionally, among adults 25 and older, males were statistically significantly more likely to have ever-used e-cigarettes than females. There were not any demographic differences among current e-cigarette users who are 25 years and older. Among young adults however, males have higher rates of ever and current-use than females. White and Hispanic/Latino respondents have higher current-use rates than respondents who identified as black or another race. For ever use and current-use, black respondents reported significantly lower prevalence rates than other racial groups.

Figure 1.5.2
Percent of adults who have ever used e-cigarettes by demographic group according to the 2017 NHIS



Source: 2017 NHIS

Figure 1.5.3
Percent of adults who currently use e-cigarettes by demographic group according to the 2017 NHIS



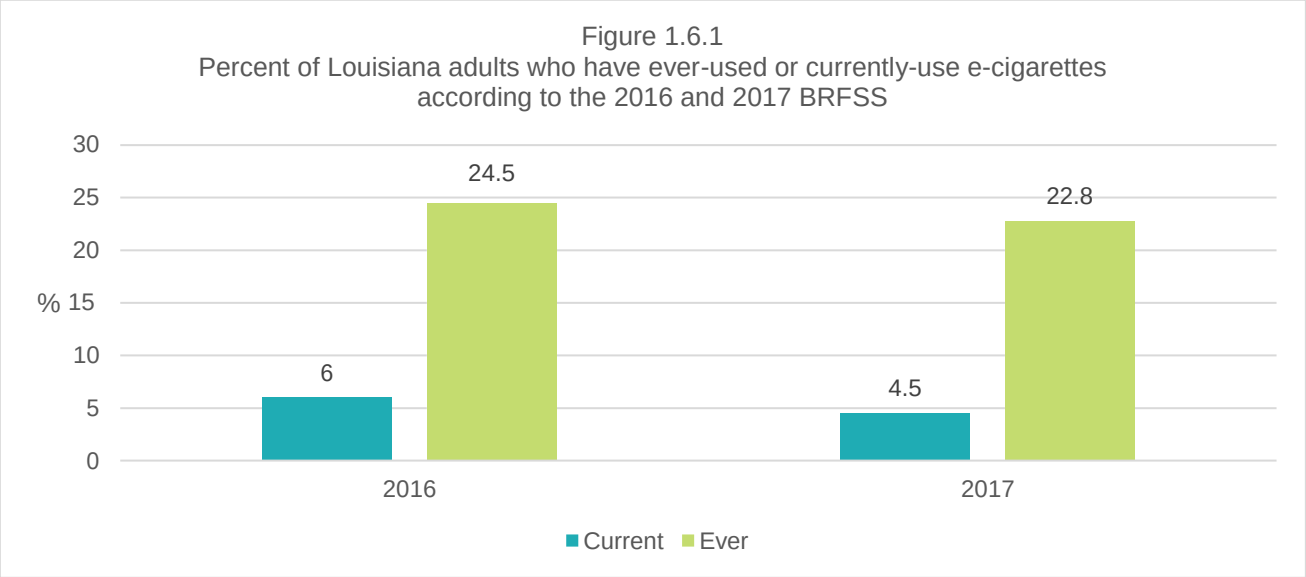
Source: 2017 NHIS

1.6 – Louisiana Adult E-Cigarette Prevalence

Information on adult tobacco use in Louisiana is asked annually in the Behavioral Risk Factor Surveillance System (BRFSS). Questions about e-cigarettes were initially introduced in 2016 so trend analysis is minimal.

Trends in Louisiana Adult Use

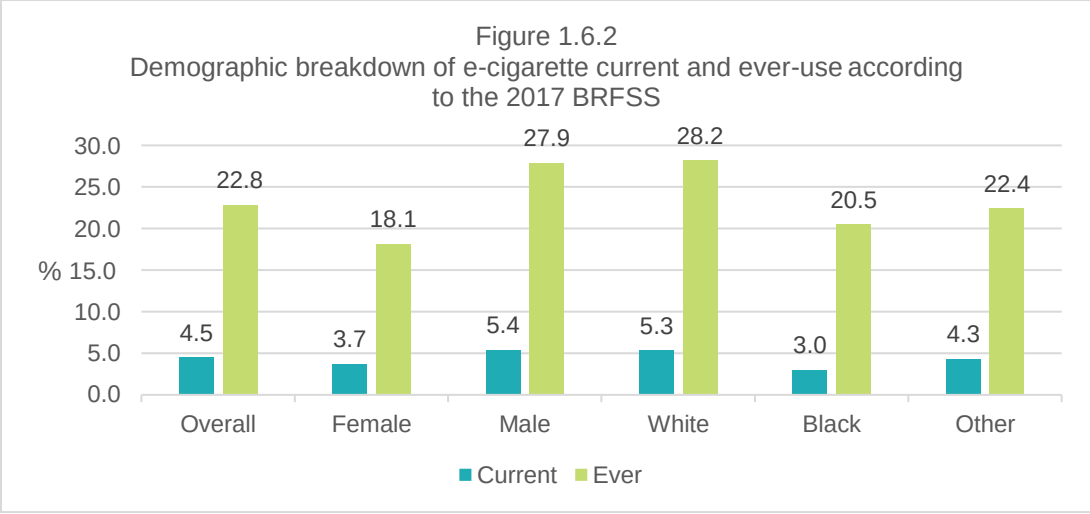
Figure 1.6.1 shows the trend of e-cigarette ever-use and current-use among Louisiana adults. According to the data e-cigarette ever use and current use has declined from 2016 to 2017.



Source: 2016, 2017 BRFSS

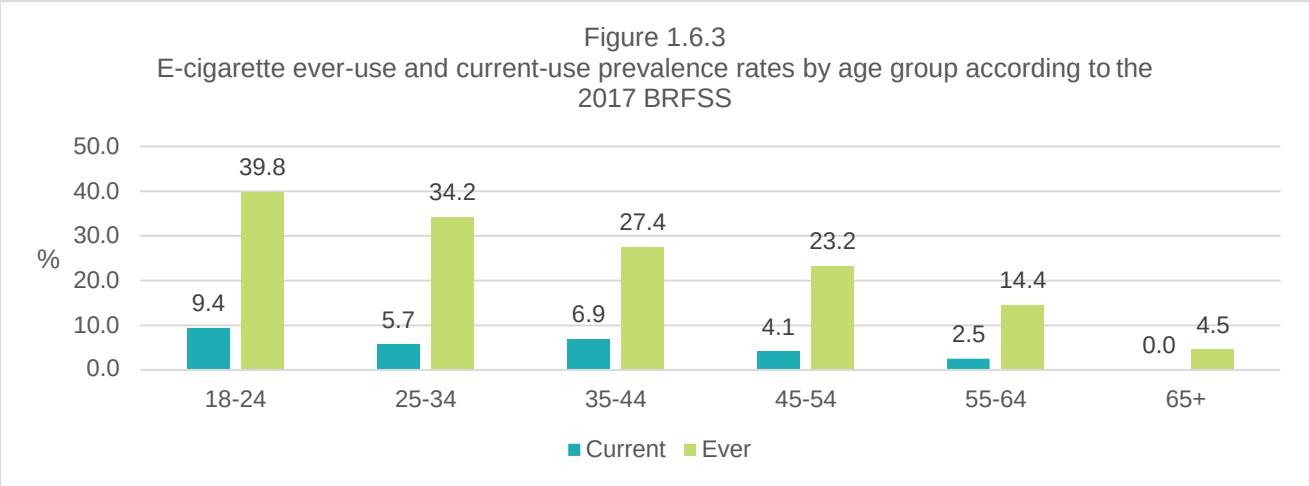
Demographics of Louisiana Adult E-Cigarette Prevalence

Figure 1.6.2 (below) shows the sex and racial breakdowns of e-cigarette ever and current use. Males have higher rates of e-cigarette use than females. Respondents who identify as white have higher rates than black or other race respondents.



Source: 2017 BRFSS

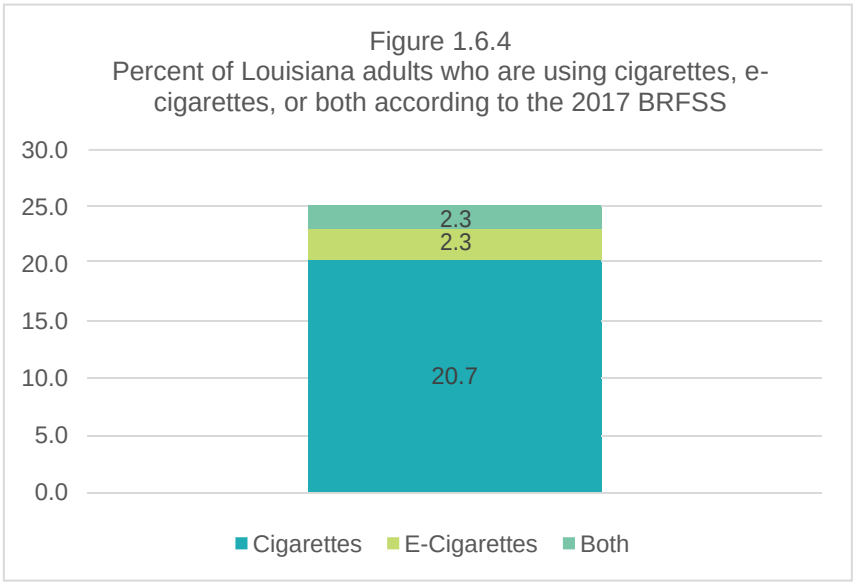
Figure 1.6.3 (below) shows the prevalence rates of ever use and current use by age groups. As shown, e-cigarette usage is highest among young adults 18-24 for current and ever users. Rates of e-cigarette use decreases as age increases, other than current use among 35-44 year olds, which is higher than the prevalence of 25-34 year olds.



Source: 2017 BRFSS

Dual Use among Louisiana Adults

Figure 1.6.4 shows the dual usage rates of e-cigarettes and traditional cigarettes among adults in Louisiana in 2017. According to the data, 20.7% of adults use cigarettes, 2.3% use e-cigarettes, and 2.3% use both.



Source: 2017 BRFSS

1.7 – E-Cigarette Marketing Tactics Among Youth

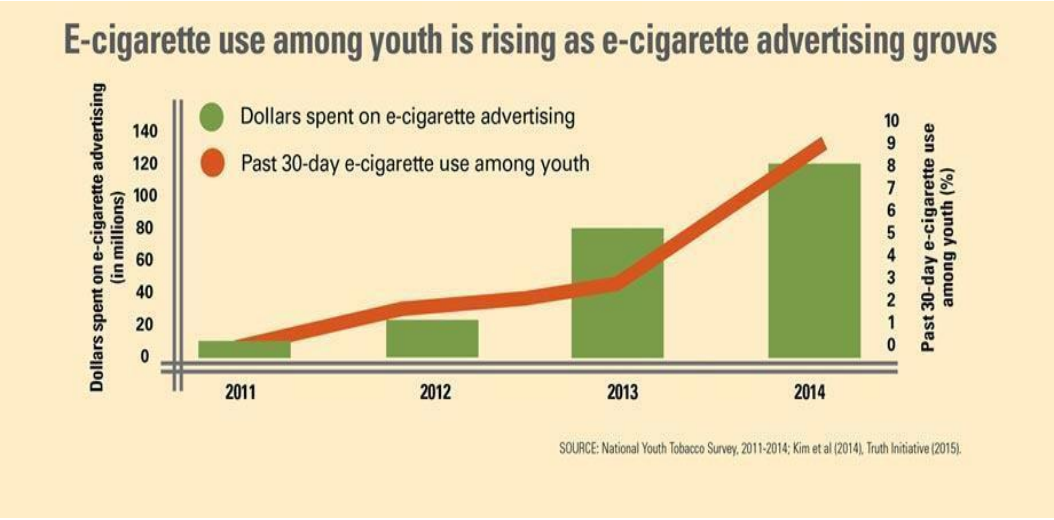
Marketing tactics used to promote e-cigarettes are similar to those used to promote conventional cigarettes. These channels include internet and social media marketing, as well as mainstream media

marketing, including but not limited to, popular magazines, retailer point of sale ads, and product placement in popular movies, television series, etc. (U.S. Department of Health and Human Services, 2016). However, although e-cigarettes are a tobacco product, they do not fall within the same regulatory promotional parameters as conventional cigarettes. Therefore, e-cigarettes can also be marketed via television advertising and sponsorships. Most recently, mobile ads have become a popular place to advertise e-cigarettes (Cantrell et al., 2017). In the past, e-cigarette samples were dispersed, at no cost, at large youth-specific events such as music festivals. However, as of May 2016, free e-cigarettes samples have been banned (U.S. Department of Health and Human Services, 2016). Several e-cigarette companies even offer scholarships ranging from $250 to $5,000 that ask students to write essays on topics such as whether using e-cigarettes could have potential benefits (Associated Press, June 2018).

Marketing tactics such as these are a public health concern because of their propensity to influence smoking behaviors among youth (U.S. Department of Health and Human Services, 2016). Figure 1.7.1 (below) shows the correlation between e-cigarette use and e-cigarette advertising. E-cigarette use among youth increases as e-cigarette advertising grows. This is consistent with research that shows a causal relationship between tobacco marketing and smoking among youth (Biener & Siegel, 2000; U.S. Department of Health and Human Services, 2016; CDC*b, 2017*). By 2016, nearly 4 out of 5 middle and high school students, or more than 20 million youth, saw at least 1 e-cigarette advertisement, creating a high degree of awareness of e-cigarettes among youth (Truth Initiative, August 2018).

Additionally, messaging promoting e-cigarettes often advertises the product as less harmful or as a cessation device. These claims are unsubstantiated, as e-cigarettes are not currently approved by the U.S. Food and Drug Administration (FDA) as a cessation aid, and little is known about the long-term health effects of use. Inadequate labeling of these products exacerbates the problem. Until August 2018, there was a lack of labeling requirements indicating that a product contains nicotine (Truth Initiative, April 2018).

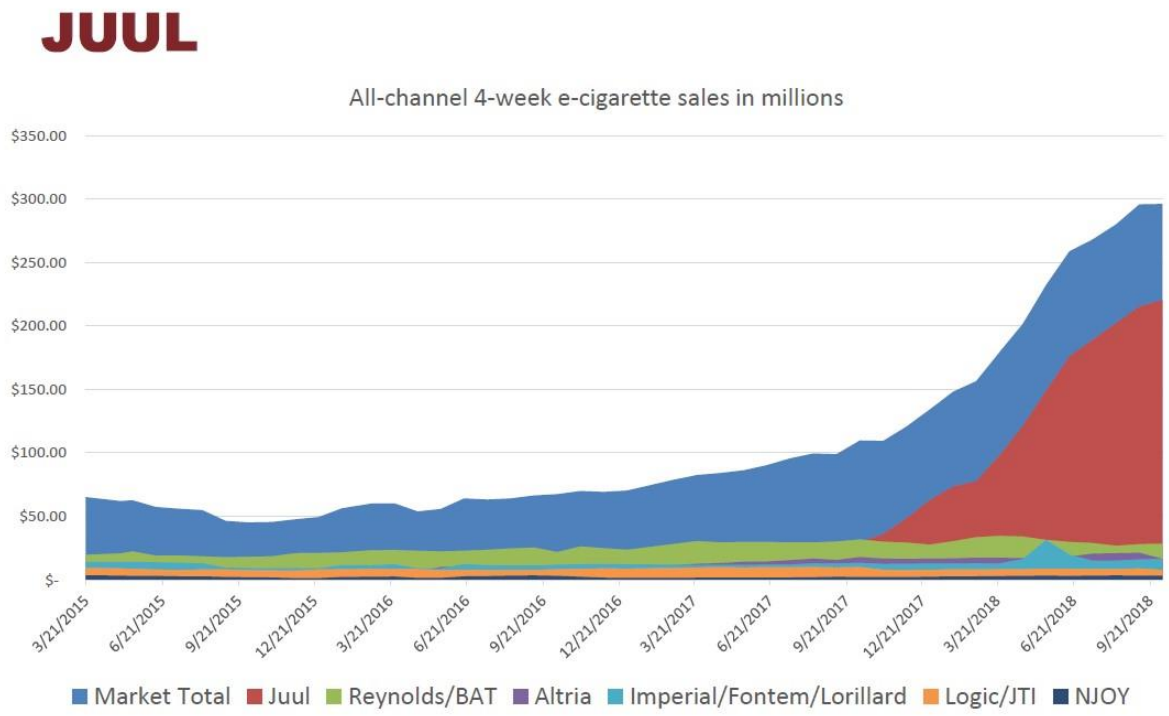
Figure 1.7.1: Correlation Between E-Cigarette Use and E-Cigarette Advertising



1.8 – The rise of JUUL

The introduction of a new generation of e-cigarettes that use nicotine vaporizers, "pods," that are shaped like USB flash drives have surged in popularity among youth. One brand in particular, JUUL (pronounced "jewel"), dominates the U.S. e-cigarette market with nearly half of the market share (Truth Initiative, February 2018). JUUL has become increasingly popular since its launch in 2015. JUUL sales increased more than 600% in 2017 (Bach, 2018). The Public Health Law Center developed a graph to illustrate data collected by Nielsen Holdings PLC. See figure 1.8.1 below.

Figure 1.8.1 E-cigarette Sales 2015-2018

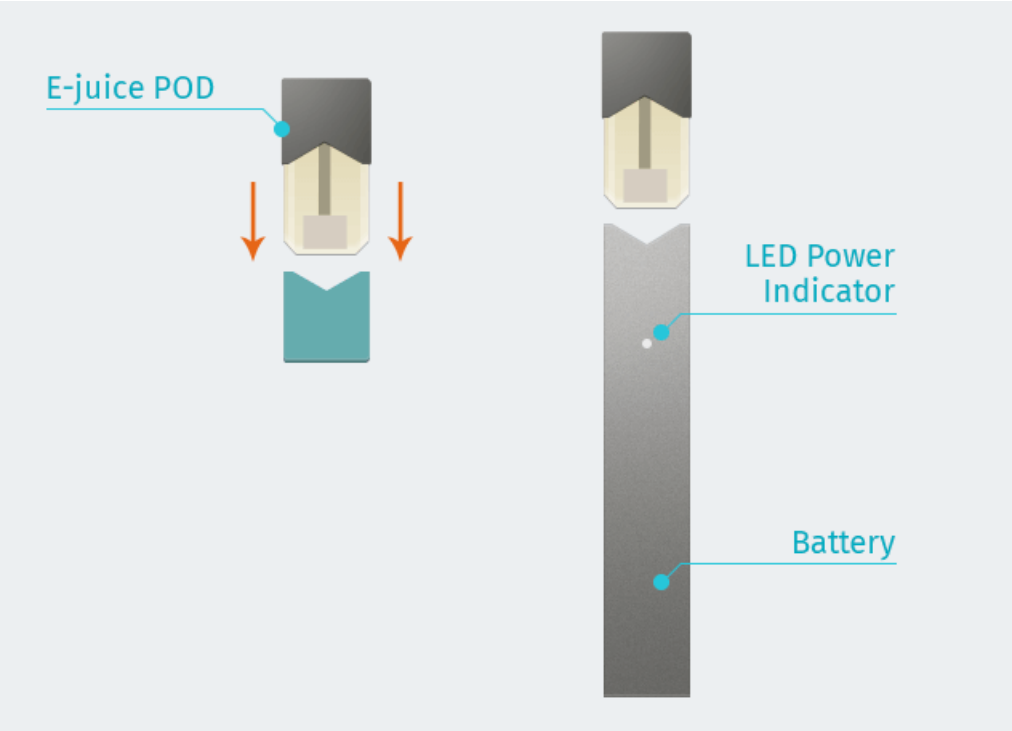


Source: Public Health Law Center, 2018

Although the manufacturer claims JUUL is for adults, the product is especially popular among youth. A 2018 study found that 18% of youth (ages 12-17) surveyed reported having seen JUUL used in their school. One potential reason for this is the sleek high-tech design of this type of e-cigarette makes it particularly easy to conceal (Truth Initiative, May 2018). JUUL also comes in sweet flavors that appeal to youth, including mango, fruit medley, crème brûlée, cool mint, and cool cucumber. A national study, Population Assessment of Tobacco and Health (PATH), found that among youth (ages 12-17) who had used e-cigarettes in the past 30 days, 85.3% had used a flavored product (Ambrose, et al., 2015).

Additionally, a study from the Truth Initiative found that the prevalent use of JUUL among youth has initiated the use of new terminology in that population. A quarter of youth and young adult JUUL users do not refer to JUUL use as "e-cigarette use" or "vaping" but rather as "JUULing" (Willett, 2018).

Figure 1.8.2 JUUL Components



Source: Illustration from Vaping Daily (https://vapingdaily.com/best-pod-mods/)

1.9 – FDA Actionsto Address"Epidemic Rates" of Youth E-Cigarette Use

In response to receiving raw data from the 2018 NYTS showing a tremendous surge in current-use of e-cigarettes among youth, the FDA issued a press release declaring an "epidemic of youth e-cigarette use" in September 2018. They announced what they called "a series of critical and historic enforcement actions related to the sale and marketing of e-cigarettes to kids." This included the largest coordinated enforcement effort in the FDA's history where they issued more than 1,300 warning letters and fines to retailers wo illegally sold JUUL and other e-cigarettes products to minors in a nationwide, undercover blitz of brick-and-mortar and online stores between April and June 2018 (FDAf, 2018).

This was followed by a statement from FDA Commissioner Scott Gottlieb in November 2018 on meetings the FDA held with the 5 e-cigarette manufactures whose products collectively represent more than 97% of the market share. The 5 companies are Altria Group Inc., JUUL Labs Inc., Reynolds American Inc., Fontem Ventures, and Japan Tobacco International USA Inc. During these meetings, the companies were asked to submit written plans outlining the steps they were going to take to confront the rising trends in youth e-cigarette use. Gottlieb called the meetings "constructive" and said the companies presented thoughtful proposals. The companies:

- acknowledged the serious public health consequences associated with youth use of tobacco products;
- acknowledged the role that flavored e-cigarette products play in appealing to kids, as well as the role that favored e-cigarettes can also play in helping adult smokers quit; and
- acknowledged the power of social sourcing of tobacco products (i.e., of-age purchasers sharing or selling products to their underage friends).

Some companies said they would support raising the minimum age to purchase tobacco to 21 years of age as well as promote retailer compliance with age and identification verification requirements (FDAd).

In November 2018, Gottlieb released another statement on proposed new steps to protect youth. These steps include revisiting and reviewing several aspects of the FDA's compliance policy, issued in 2017, which extended the dates by which manufacturers of deemed tobacco products that were on the market as of Aug. 8, 2016, were expected to submit premarket applications to the FDA for review. After receipt of an application, the FDA reviews the application and determines if the product meets the applicable statutory standard to be marketed. Under that policy of enforcement discretion, the premarket application compliance date for newly regulated combustible tobacco products, including certain cigars and pipe tobacco, was extended to August 2021. The premarket application compliance date for newly regulated non-combustible tobacco products was extended to August 2022.

Through this review, Gottlieb hopes to advance a policy framework that would dramatically impact the ability of American youth to access tobacco products that we know are both appealing and addicting. He hopes this policy framework will also reflect "a very careful public health balance that we're trying to achieve. A balance between closing the on-ramp for kids to become addicted to nicotine through combustible and non-combustible products, while maintaining access to potentially less harmful forms of nicotine delivery through ENDS for adult smokers seeking to transition away from combustible tobacco products."

This policy framework includes strategies to:

- have all flavored ENDS products (other than tobacco, mint and menthol flavors or non-flavored products) sold in age-restricted, in-person locations;
- curtail the sale of applicable flavored ENDS products that are sold online without heightened age verification processes;
- eliminate flavors from cigars in order to help prevent cigar initiation by young people;
- pursue the removal from the market of those ENDS products that are marketed to children and/or appealing to youth; and
- advance a Notice of Proposed Rulemaking that would seek to ban menthol in combustible tobacco products, including cigarettes and cigars.

Gottlieb says, "The bottom line is this: I will not allow a generation of children to become addicted to nicotine through e-cigarettes. We won't let this pool of kids, a pool of future potential smokers, of future disease and death, to continue to build. We'll take whatever action is necessary to stop these trends from continuing." (FDAg, 2018)

Section 2 – Health Impacts of E-Cigarettes

2.1 – Surgeon General's Report

The 2016 Surgeon General's Report explored the short-term and potential long-term health effects related to the continued use of e-cigarettes. Given the brief history of e-cigarette products, little is known about related long-term health effects. The 2016 Surgeon General's Report supports that nicotine

exposure through conventional cigarettes causes addiction and other adverse health effects, which is also relevant to e-cigarettes. Specifically, the Report states:

> The potential adverse health effects for youth who inhale e-cigarette aerosol include those to the body from acute administration of nicotine, flavorants, chemicals, other particulates, and additional effects, such as the following:
>
> - nicotine addiction,
> - developmental effects on the brain from nicotine exposure, which may have implications for cognition, attention, and mood,
> - e-cigarette influence initiating or supporting the use of conventional cigarettes and dual use of conventional cigarettes and e-cigarettes,
> - e-cigarette influence on subsequent illicit drug use,
> - e-cigarette effects on psychosocial health, particularly among youth with one or more comorbid mental health disorders, and
> - battery explosion and accidental overdose of nicotine. (U.S. Department of Health and Human Services, 2016)

2.2 –The National Academiesof Sciences, Engineering, andMedicine Report

The National Academies of Sciences, Engineering, and Medicine released a report (National Academies of Sciences, Engineering, and Medicine, 2018) in January 2018 discussing the public health consequences of e-cigarettes. An expert committee highlighted conclusions related to outcomes of e-cigarettes based on the level of evidence. Per the report, the outcomes that were deemed to have conclusive evidence can be seen below:

- E-cigarette use increases airborne concentrations of particulate matter and nicotine in indoor environments compared with background levels.
- Exposure to nicotine from e-cigarettes is highly variable and depends on product characteristics (including device and e-liquid characteristics) and how the device is operated.
- Most e-cigarette products contain and emit numerous potentially toxic substances, which are highly variable and depends on the product characteristics and how the device is operated.
- E-cigarette devices can explode and cause burns and projectile injuries. This risk increases significantly when batteries are of poor quality, stored improperly, or are modified by users.
- Intentional or accidental exposure to e-liquids (from drinking, eye contact, or dermal contact) can result in adverse health effects including but not limited to seizures, anoxic brain injury, vomiting, and lactic acidosis.
- Intentionally or accidentally drinking or injecting e-liquids can be fatal.
- Substituting e-cigarettes for combustible tobacco cigarettes reduces users' exposure to numerous toxicants and carcinogens present in combustible tobacco cigarettes.

The outcomes that were deemed to have substantial evidence can be seen below:

- Nicotine intake from e-cigarette devices among experienced adult e-cigarette users can be comparable to that from combustible tobacco cigarettes.
- Except for nicotine, under typical conditions of use, exposure to potentially toxic substances from e-cigarettes is significantly lower compared with combustible tobacco cigarettes.

- E-cigarette aerosol contains metals. E-cigarette metals can induce acute endothelial cell dysfunction, although the long-term consequences and outcomes on these parameters with long-term exposure to e-cigarette aerosol are uncertain.
- The components of e-cigarettes aerosols can promote formation of reactive oxygen species/oxidative stress. Although this supports the biological plausibility of tissue injury and disease from long-term exposure to e-cigarette aerosols, generation of reactive oxygen specifics and oxidative stress induction is generally lower from e-cigarettes than from combustible tobacco cigarette smoke.
- E-cigarette use results in symptoms of dependence on e-cigarettes.
- The heart rate increases shortly after nicotine intake from e-cigarettes.
- Some chemicals present in e-cigarette aerosols are capable of causing DNA damage and mutagenesis. This supports the biological plausibility that long-term exposure to e-cigarette aerosols could increase risk of cancer and adverse reproductive outcomes. Whether or not the levels of exposure are high enough to contribute to human carcinogenesis remains to be determined.
- E-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.
- Completely switching from regular use of combustible tobacco cigarettes to e-cigarettes results in reduced short-term adverse health outcomes in several organ systems .

2.3 – Nicotine Exposure

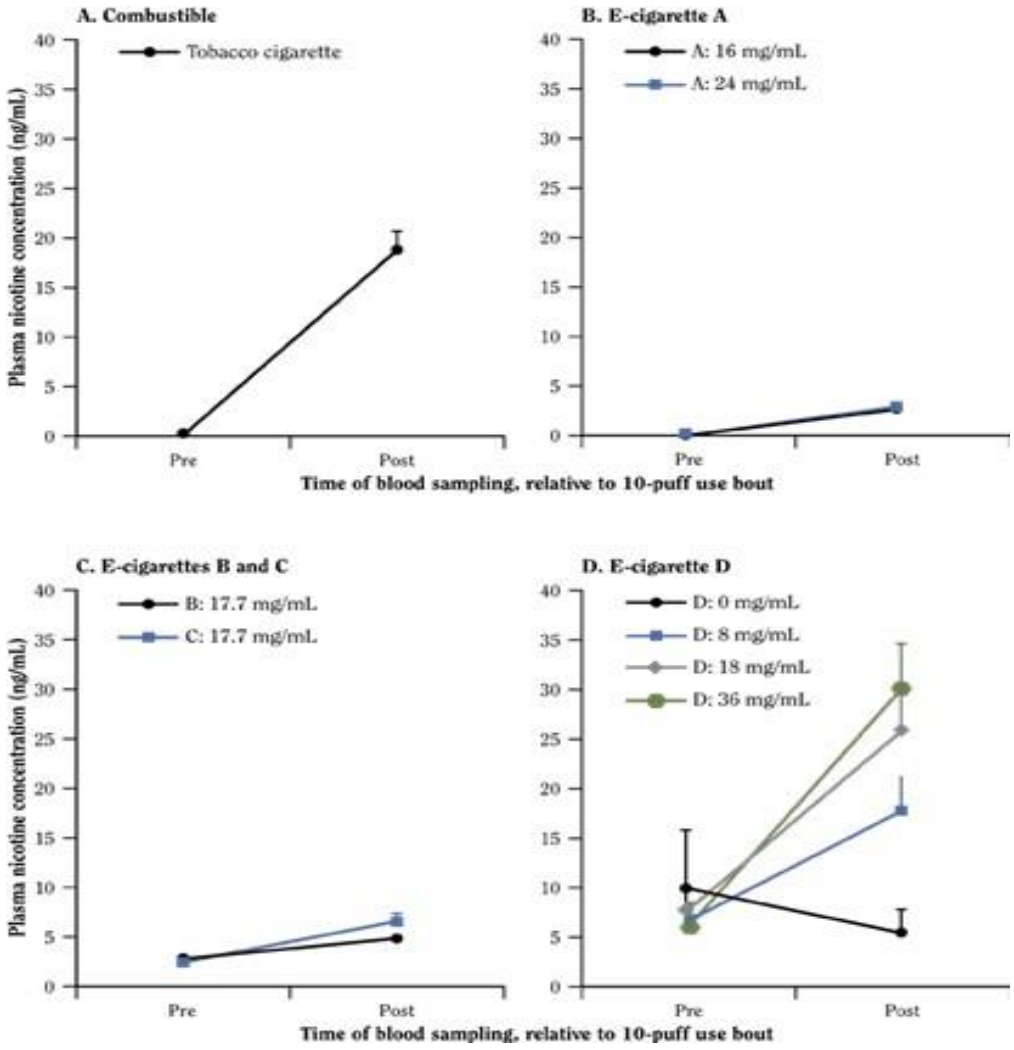
Adverse health effects of e-cigarettes are difficult to determine due to the customizable options for dosage of the e-liquid in e-cigarettes. E-liquid is the mixture used in e-cigarettes and other vapor products. E-liquid generally consists of propylene glycol, glycerin, water, nicotine, and flavorings. It is known that exposure to nicotine has been linked with a potential initiating factor in the atherogenic process within arteries (Lee et al., 2011; Santanam et al., 2012; Benowitz and Burbank, 2016). Additionally, acute administration of nicotine can lead to cardiovascular effects such as increased heart rate and blood pressure, as well as to several other cardiovascular effects (Rosenberg et al., 1980; U.S. Department of Health and Human Services, 2014). The evidence mentioned indicate that outcomes currently associated with e-cigarettes are in alignment with the risks associated with the nicotine present in conventional cigarettes. Existing research shows the distinctive cardiovascular effects from conventional cigarettes also being exerted by e-cigarettes (Benowitz and Burbank, 2016; Bhatnagar et al., 2014).

Nicotine can be found in the liquid (e-liquid) of the e-cigarette. Studies have shown that e-cigarette users can regulate the amount of e-liquid being consumed, which alters the amount of nicotine received. According to the 2016 Surgeon General Report, acute administration of nicotine causes a variety of well-characterized, dose and route-dependent effects in adults, such as increases heart rate, blood pressure, and greater cardiac output. This can lead to an increase in myocardial oxygen demand (Rosenberg et al., 1980; U.S. Department of Health and Human Services, 2014).

In more experienced e-cigarette users, blood nicotine levels are influenced by puffing patterns, such as puff length. Dawkins and Corcoran (2014) observed large individual differences in plasma nicotine levels ranging from 2.50 to 13.4 mg/mL after 10 puffs of an e-cigarette. This suggests that e-cigarette users adjust puff duration and volume to maintain a desired nicotine level. Figure 2.2.1 shows plasma nicotine

concentrations from studies with blood sampled before and immediately after 10 puffs of tobacco products.

Figure 2.3.1: Plasma Nicotine Concentration Levels After 10 Puffs of Nicotine



Source: Vansickel et al. (2010); Farsalinos et al. (2014b); Yan and D'Ruiz (2015); and Ramoa et al. (2016).

Figure 2.3.1 suggests that various strength e-liquids achieve high plasma nicotine levels very quickly – matching and exceeding those reported in conventional cigarette smokers (U.S. Department of Health and Human Services, 2016).

Nicotine Exposure: During Adolescence

Nicotine exposure during adolescence can cause addiction and harm to the developing adolescent brain. The adolescent years are times of important brain development. Brain development begins as a fetus grows in the womb and continues until about age 25. Because of this, youth consumers may be particularly vulnerable to the consequences of nicotine exposure. Nicotine exposure during adolescence can impact learning, memory, and attention (U.S. Department of Health and Human Services, 2018). It can also increase drug-seeking behaviors (U.S. Department of Health and Human

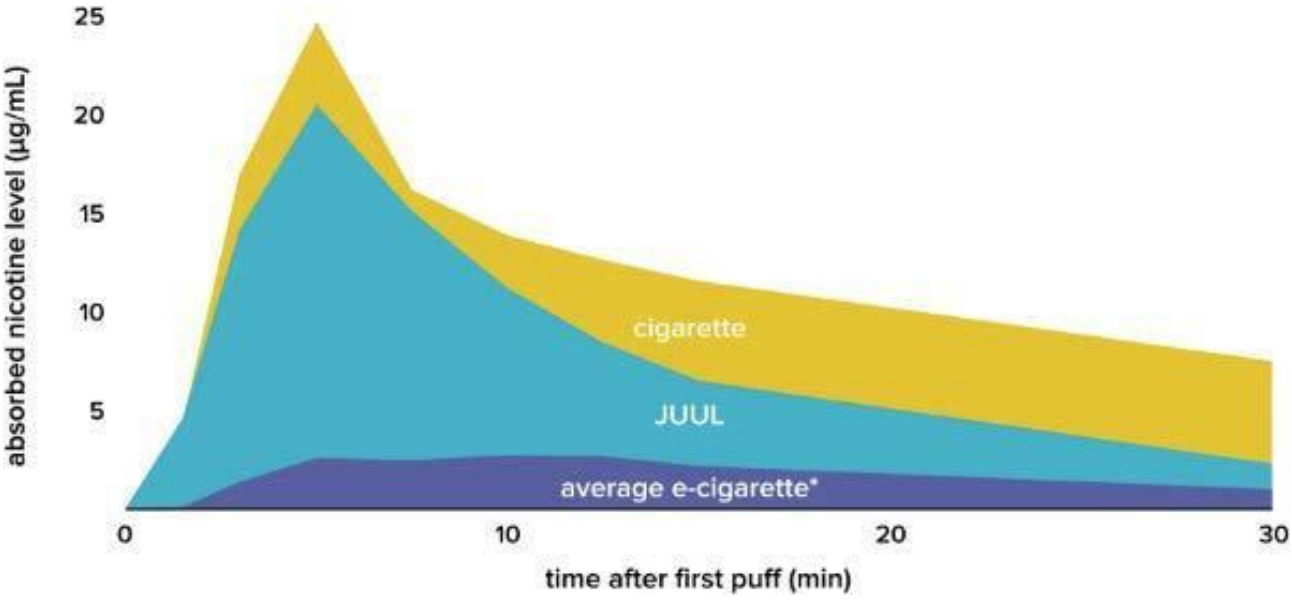
Services, 2016) and mood disorders (Yuan et al., 2015).

Nicotine, a psychomotor stimulant drug, is the primary psychoactive and addictive constituent in the smoke of conventional cigarettes and an important determinant in maintaining smoking dependence (U.S. Department of Health and Human Services, 2014). Long-term studies on the safety of nicotine-only exposure from e-cigarettes have not been conducted. Subsequently, little is known about the long-term health impacts on youth and adults. The 2018 "Surgeon General's Advisory on E- cigarette Use Among Youth" does, however, state that "any e-cigarette use among young people is unsafe, even if they do not progress to future cigarette smoking" (U.S. Department of Health and Human Services, 2018). Several studies also suggest that e-cigarette use may encourage future cigarette smoking in adolescents (Bold KW, Kong G, Camenga DR, et al., 2017; Chaffee BW, Watkins SL, Glantz SA, 2017; Leventhal AM, Strong DR, Kirkpatrick MG, et al., 2015).

E-cigarettes can also be used to deliver other drugs, including marijuana. In 2016, one third of U.S. middle and high school students who ever used e-cigarettes had used marijuana in e-cigarettes (U.S. Department of Health and Human Services, 2018).

JUUL pod's contain a high level of nicotine. According to the manufacturer, a single JUUL pod contains as much nicotine as a pack of 20 regular cigarettes (CDCd, 2018). A study from the Truth Initiative found that 63% of JUUL users did not know that this product always contains nicotine (Willett, Bennett, Hair, et al., 2018). JUUL appears to deliver nicotine more quickly, more effectively and at higher doses than other e-cigarettes, increasing users' risk of addiction.

Figure 2.3.2 Nicotine Delivery of JUUL



Source: Public Health Law Center, 2018

Nicotine Exposure: In Pregnancy

Nicotine can cross the placenta and has known adverse effects on fetal and postnatal development (U.S. Department of Health and Human Services, 2016). Therefore, nicotine delivered by e-cigarettes during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome (SIDS), and could result in altered corpus callosum, deficits in auditory processing, and obesity. The difficulty with studies on the maternal use of tobacco during pregnancy is finding the sole effect nicotine has on the fetus in relation to the other social, environmental, and cognitive factors that also predict offspring tobacco use (U.S. Department of Health and Human Services, 2016). Furthermore, studies on both humans and animals show a neurotoxic effect of fetal nicotine exposure. Pregnant women and women intending to become pregnant should be cautioned against using e-cigarettes to avoid unnecessary nicotine exposure to their baby.

2.4 – E-Cigarette Chemicals

E-cigarettes can expose users to several chemicals, including nicotine, carbonyl compounds, and volatile organic compounds, known to have adverse health effects. The health effects and potentially harmful doses of heated and aerosolized constituents of e-cigarette liquids, including solvents, flavorants such as diacetyl (a chemical linked to serious lung disease), and toxicants, are not completely understood. Carcinogens (e.g., formaldehyde, acetaldehyde, and acrolein) and toxic heavy metals (e.g., lead and cadmium) have been found in e-cigarette aerosols in laboratory tests conducted at temperatures within the range of most e-cigarette products (U.S. Department of Health and Human Services, 2016). However, the variety of products (different origins and designs), the rapid emergence of new products, and the varied ways in which consumers use these products make the development of standard measurement conditions challenging (Brown & Cheng, 2014). Examination is also required to recognize whether potential health risks may be enhanced by changes in product manufacturing. Ingestion of e-cigarette liquids containing nicotine can cause acute toxicity and possibly death if the contents of refill cartridges or bottles containing nicotine are consumed (U.S. Department of Health and Human Services, 2016).

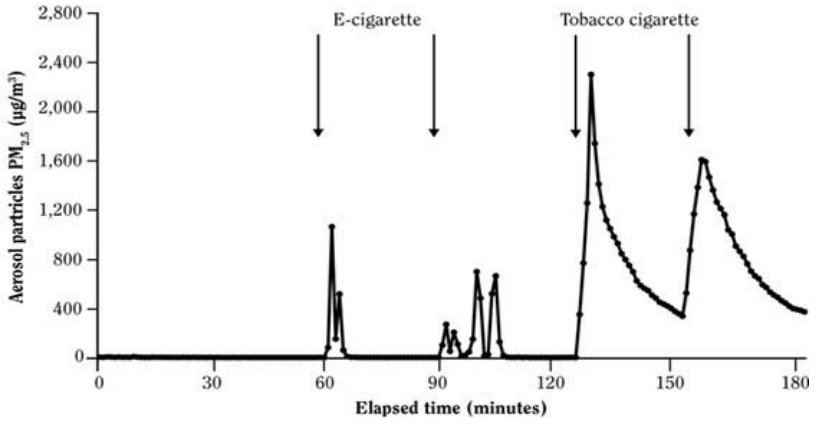
2.5 – E-Cigarette Aerosol

E-cigarette aerosol is not harmless “water vapor,” although it generally contains fewer toxicants than combustible tobacco products. Hazardous carcinogens have been detected in e-liquids, or in the heated aerosol produced by e-cigarettes, including formaldehyde, acetaldehyde, and acrolein (U.S. Department of Health and Human Services, 2016). Commercial and custom-mixed e-liquids are produced with undisclosed manufacturing procedures, packaging materials, and purity standards for their constituents, increasing the risks of potential health consequences (U.S. Department of Health and Human Services, 2016).

Electronic cigarette aerosol is produced through the process of heating a liquid comprising nicotine, flavorings, and other chemicals. The aerosol is inhaled into the users’ lungs when they draw on the device and the user exhales the aerosol into the environment (CDCc, 2018). Concentrations of fine particle matter and nicotine are the two most common markers used to measure exposure to secondhand smoke (Avila-Tang et al., 2010; Apelberg et al., 2013). E-cigarettes are a source of extremely high doses of ultrafine particle matter (e.g., aerosol) in the respiratory system. Fine particles are emitted

when the solvents are aerosolized. Mild respiratory effects have been documented, but adequate assessments are still lacking (U.S. Department of Health and Human Services, 2016). Figure 2.5.1 shows the significant increase in aerosol concentration from e-cigarettes after about one hour and the subsequent rapid decline. (U.S. Department of Health and Human Services, 2016).

Figure 2.5.1: Aerosol Concentration from E-Cigarettes



Source: Czogala et al., 2014

It is important not to rely solely on particulate matter (PM) mass concentrations for determining exposure to e-cigarette aerosol and for making comparisons with conventional cigarettes, because there may still be significant amounts of e-cigarette aerosol in the environment, but it cannot be measured, as it is either in the aerosol phase or deposited on surfaces (U.S. Department of Health and Human Services, 2016).

Although some typical constituents of the e-cigarette aerosol have been identified, the short and long-term health impacts of aerosolized constituents of the e-liquids are in the preliminary stages of research. Research has indicated that short-term use of electronic cigarettes can increase respiratory resistance and impair lung function, which may result in difficulty breathing (Vardavas et al., 2012). Chronic use of e-cigarettes has been shown to alter lung tissue which is likely harmful and could eventually develop into chronic lung disease (Ghosh et al., 2018).

2.6 – Secondhand Smoke and Passive Exposure

Exposure to secondhand smoke from combustible tobacco products is a known cause of morbidity and mortality (U.S. Department of Health and Human Services, 2006). Secondhand smoke, a mixture of the side stream smoke from a cigarette and the mainstream smoke exhaled by a smoker, is known to contaminate both indoor and outdoor environments. The deposited constituents of combustible smoke are known as “thirdhand smoke” (Matt et al., 2011; Protano & Vitali, 2011). E-cigarettes represent another potential source of exposure to toxicants for nonusers, via secondhand or thirdhand exposure to aerosol.

In contrast to combustible tobacco products, e-cigarettes do not produce side stream emissions; aerosol is produced during activation of the device. It is still unclear how much of inhaled aerosol is exhaled into the environment, exposing non-users. A 2014 FDA study measured airborne nicotine in the homes of e–

cigarette users (Ballbe et al., 2014). The concentration of e-cigarette aerosol in a given environment depends predominantly on the strength of the source or the number of e-cigarettes used and the emission rate of the aerosol for that device. The number of puffs and depth of inhalation may be particularly relevant to the amount exhaled by the user and may also affect e-cigarette emissions (Talih et al., 2016). Flouris and colleagues (2012, 2013) conducted two clinical studies of the health effects of secondhand exposure to e-cigarette aerosol. The researchers found no short-term change in markers of complete blood count after one hour of exposure to e-cigarette aerosol in a group of 15 nonsmokers (Flouris et al., 2012). Similarly, the same exposure caused no significant change in short-term lung function (Flouris et al., 2013). However, these studies demonstrated that passive exposure to e-cigarettes causes an increase in serum cotinine that is similar to that from passive exposure to cigarette smoke, suggesting the need to research inhalation on long-term lung function (Flouis et al., 2013). Additionally, only limited effects could be studied in the short-term exposure observed by the researchers, these studies did not account for continued and persistent second or thirdhand exposure to e−cigarette aerosols.

2.7 – Summary

The diversity of products, the development of new products, and the varied ways in which consumers use e-cigarette products, make the development of standard measurement challenging (Brown & Cheng, 2014). Further research is needed to recognize how different design features relate to potential toxicity and whether or not health risks are exacerbated by changes in product engineering. Although, it is known that the nicotine and aerosols in e-cigarettes can cause various negative health impacts, investigation is necessary to understand the long-term health impacts of e-cigarettes.

Section 3 – E-Cigarettes as a Cessation Tool

There has been no conclusive evidence to determine using e-cigarettes as an effective means for long-term cessation of cigarette smoking (Caraballo et al., 2017). Longitudinal studies are the best method to study the health effects of long-term use of consumer products. E-cigarettes are new to the market, thus it will take decades to complete these long-term studies (U.S. Department of Health and Human Services, 2016). It is also hard to determine cessation effectiveness due to the evolving landscape of e-cigarette products. There are countless variations of e-cigarette products available, in addition to new products being developed and introduced to the market. As noted previously, e-cigarettes are not approved by the FDA as a quit smoking aid. The U.S. Preventive Services Task Force (USPSTF), a group of health experts that determines recommendations about preventive health care, concluded that the evidence is insufficient to recommend e-cigarettes for smoking cessation in adults, including pregnant women.

3.1 – Using E-Cigarettesas a Cessation Tool

Cessation Tool: Among Youth

Data suggests the use of e-cigarettes among youth and young adults could lead to more harmful use of conventional cigarettes (U.S. Department of Health and Human Services, 2016). A study conducted by the RAND Corporation found that youth who use electronic nicotine delivery systems (ENDS) are more likely to smoke cigarettes and will likely increase the frequency of use for both products over time

(Dunbar et al., 2018). Figure 3.1.1 describes the potential harms and benefits of e-cigarettes among youth.

Figure 3.1.1: Comparative Risk Assessment: Potential Harms and Benefits of E-Cigarettes Among Youth

Harms	Benefits
Increased youth exposure to nicotine and potentially greater initiation of conventional cigarettes	Reduced disease risk for current smokers who switch completely to e-cigarettes
Slowing cessation due to nicotine addiction	Reduced morbidity for current smokers with lung and heart disease
Renormalizing nicotine and tobacco use	Potential for complete cessation
Future risk of disease for exposed youth	Fewer users of combustible tobacco products in the population
Increased dual use of e-cigarettes and combustible products	
Exposure to secondhand aerosol	
Gateway to conventional tobacco products	
Less frequent utilization of proven cessation methods	

Source: U.S. Department of Health and Human Services, 2016

Cessation Tool: Among Adults

Among adult non-pregnant conventional cigarette smokers, e-cigarettes have shown to be significantly less harmful, but only if the smoker transitions completely to e-cigarettes (U.S. Department of Health and Human Services, 2016). However, less harmful does not mean harmless (U.S. Department of Health and Human Services, 2016). Research finds that the majority (60%) of smokers are dual using (Hartmann-Boyce et al., 2016). Dual use occurs when an individual decreases the usage of conventional cigarettes by adding another tobacco product (CDCa, 2017). Most adult e-cigarette users do not stop smoking cigarettes, but instead utilize both products (CDCb, 2017).

E-cigarettes are grouped into three generations. The first generation are cigalikes, which are typically disposable or have cartridges that are screwed on (Hartmann-Boyce et al., 2016). The second generation are tank models. Tank products are known to provide better nicotine delivery, allowing for a wider choice of flavors and nicotine concentration (Dawkins, 2013; Farsalinos, 2014; Hartmann-Boyce et al., 2016). The third generation allow users to adjust the voltage level of the product (Hartmann-Boyce et al., 2016). Most recently, e-cigarettes have taken on a high-tech design with easily rechargeable batteries and salt e-liquid formulas that delivers high levels of nicotine. The most common of this new e-cigarette is JUUL, which emerged in 2016 and is currently dominating the e-cigarette market. Smokers are more likely to successfully quit using tank products versus cigalikes (Chen, 2016; Hitchman, 2015; Hartmann-Boyce et al., 2016).

The long-term safety of e-cigarettes is unknown. In some studies, reductions in biomarkers (a measurable substance in an organism whose presence is indicative of some phenomenon such as disease, infection, or environmental exposure) were observed in conventional cigarette smokers who switched to e-cigarettes consistent with reductions seen in smoking cessation (Hartmann-Boyce et al., 2016).

Although decreasing cigarette use has shown to improve overall health, smoking fewer cigarettes a day in correlation with using other tobacco products can still be harmful. Heavy smokers who reduce their cigarette use by half still have a very high risk for early death. On average, smokers die 10 years earlier than nonsmokers (CDCa, 2017). The earlier you quit entirely, the lower your risk for early death. Social smokers, people who do not smoke cigarettes on a daily basis but who smoke in certain social situations on a regular basis, can still cause harm to their cardiovascular system. Social smokers have similar blood pressure and cholesterol levels to people who smoke regularly (CDCa, 2017). When you quit smoking completely, you begin to reduce your heart disease risk right away. Health risks are cut in half one year after quitting and continue to drop over time (CDCa, 2017). Using approved quitting methods, such as medications and counseling, can triple your chances for success (Fiore, et al., 2008).

3.2 – Evidence-Based Cessation Treatments

Evidence-based cessation treatments that have shown to be effective in helping individuals quit tobacco include individual, group, and telephone counseling, as well as 7 FDA approved medications. Medications and counseling have been shown to be even more effective when used simultaneously (Fiore, et al., 2008; American Lung Association, 2010). Individuals wanting to quit tobacco should be encouraged, but not required, to combine the use of counseling and medication, as not everyone responds similarly to cessation treatment.

FDA-Approved Cessation Medications

There are 7 approved FDA cessation medications. Five forms are nicotine replacement therapy (NRT) which include: nicotine gum, nicotine inhaler, nicotine lozenges, nicotine nasal spray, and nicotine patch (Fiore et al., 2008). In addition, there are 2 non-NRT medications: bupropion (Zyban, Wellbutrin) and varenicline (Chantix) (Fiore et al., 2008).

Individual, Group and Telephone Counseling

Evidence-based research supports the effectiveness of individual, group, and telephone counseling as a cessation treatment (Campaign for Tobacco-Free Kids, 2012). Treatment effectiveness increases with intensity (American Lung Association, 2010). Effective cessation counseling incorporates social support and addresses practical coping and problem solving skills (American Lung Association, 2010).

State Quitline Services (1-800-QUIT-NOW)

Tobacco cessation quitlines are considered to be an effective approach to cessation (Lemaire, Bailey, & Leischow, 2015). Quitlines comply with U.S. Public Health Services Clinical Guidelines and offer counseling, medications, information and other support to help tobacco users quit (Lemaire, Bailey, & Leischow, 2015). Quitline counseling has been effective in diverse populations and has been shown to broaden the reach (Fiore, et al., 2008; American Lung Association, 2010; CDC, 2015). In a given year, the Louisiana State Quitline serves up to 20,000 tobacco users. More information about the Louisiana Quitline can be found on www.quitwithusla.org.

3.3 – Summary

E-cigarettes are complicated. Regarding youth and young adults, evidence shows that e-cigarette use has the potential to lead to conventional smoking (U.S. Department of Health and Human Services, 2016). Regarding conventional non-pregnant adult smokers, there is incomplete evidence on whether e-cigarettes contribute to reducing overall tobacco-related harm (Bhatnagar et al., 2014; U.S. Department of Health and Human Services, 2016). There are several evidence-based, FDA-approved cessation treatments that have shown be effective in helping individuals quit tobacco. E-cigarettes are not approved by the FDA as a smoking cessation aid.

Overall, there is not enough evidence to conclude the long-term effects of e-cigarette usage. There is also not enough evidence to recommend e-cigarettes as an approved form of cessation (Hartmann-Boyce et al. 2016). Data shows youth e-cigarette use has reached epidemic levels in the U.S. The FDA Commissioner, Scott Gottieb, released a statement in late October 2018 for a "Call to Action – to the FDA and the e-cigarette industry":

> "For the FDA…we're committed to announcing a new action plan by mid-November that will set forth a series of new, forceful steps to firmly confront and reverse the youth addiction trends that are at epidemic levels…for the e-cigarette industry… my message is simple: step up. Achieving the right balance requires a strong regulatory process that protects our nation's youth…" (FDAd, 2018)

Section 4 – Taxation of E-Cigarette Products

4.1 – Taxation of Tobacco Products

Tobacco was one of the earliest consumer products to be taxed by the federal government, and, since the Civil War, it has been established as part of the federal tax system (Goldman, 2016). Tobacco taxes have been used to achieve the dual goals of revenue production for governments and discouraging the harmful use of tobacco in populations. Tobacco taxes have been justified by economists to help fund smoking prevention and other public health programs (Tax Foundation, 2016).

Impact of increasing the price of tobacco products

The Institute of Medicine's (IOM) 2007 report recommended a "two pronged" strategy as the best practice for comprehensive tobacco control (U.S. Department of Health and Human Services, 2016):

1) full implementation of clean air laws, taxation, and counter marketing campaigns
2) strong federal regulation of tobacco products and their marketing and distribution

These tobacco control interventions have been shown to be associated with reductions in the prevalence of tobacco use among adults and young people, reductions in tobacco product consumption, and increased quitting as shown in Figure 4.1.1 (Community Preventive Services Task Force, 2015).

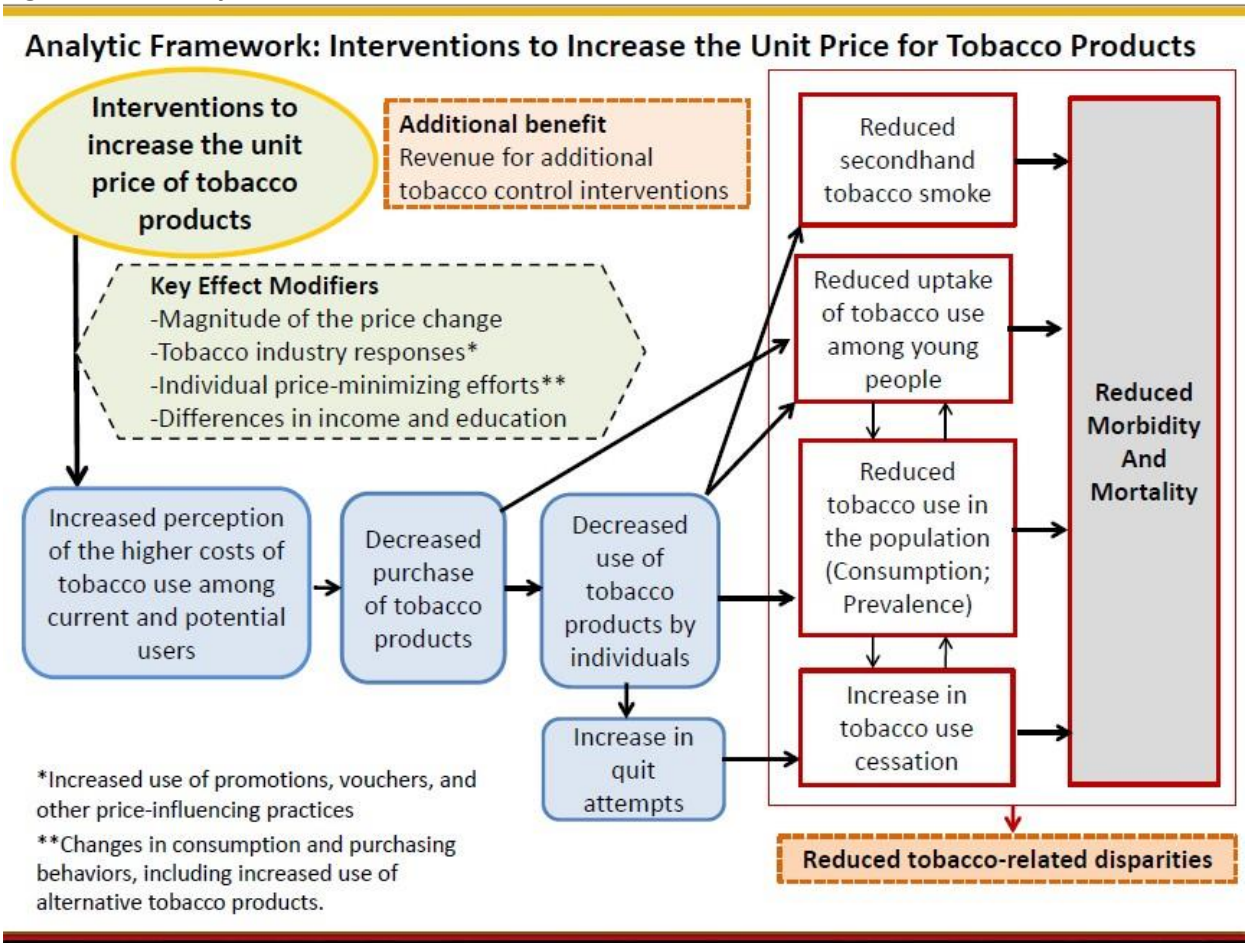
Increases in the price of tobacco products in turn reduce demand for tobacco, thereby prompting quit attempts, reducing consumption among those who do not quit, and preventing youth from initiation. Increasing the unit price of tobacco by 20% was found to be linked to the following reductions:

- 7.4 percent reduction in demand among adults ages 30 and older
- 14.8 percent reduction in demand among young people ages 13-29
- 3.6 percent reduction in the proportion of adults ages 30 and older who use tobacco

- 7.2 percent reduction in the proportion of young adults ages 19-29 who use tobacco
- 8.6 percent reduction in tobacco use initiation among young people ages 13-29
- 6.5 percent increase in quitting among adults ages 30 and older
- 18.6 percent increase in quitting among young people ages 13-29 (Community Preventive Services Task Force, 2015).

An economic review of the evidence estimated that healthcare cost savings from a 20% price increase for tobacco products ranged from -$0.14 to $90.02 per person per year (2011 dollars), in addition to prevented productivity losses (Community Preventive Services Task Force, 2015).

Figure 4.1.1: Analytic Framework of Interventions to Increase the Unit Price for Tobacco Products



Source: Retrieved from https://www.thecommunityguide.org/sites/default/files/assets/AF-increasingunitprice.pdf

The U.S. Food and Drug Administration (FDA) finalized a rule on August 8, 2016, to provide regulatory authority over all tobacco products including e-cigarettes, cigars, hookah, and pipe tobacco (FDAb, 2016). A precursor to this ruling was the 2009 Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act), which gave the FDA the authority to regulate the manufacture, distribution, and marketing of tobacco products. The Act also restricts tobacco marketing and sales to youth and mandates ingredient disclosure and warning labels on smokeless tobacco, among other things (FDAc, 2017).

Taxation of Combustible versus Noncombustible Tobacco Products

In order to determine how to tax e-cigarettes, states must first determine how to classify them. Tobacco products can be classified as either combustible or noncombustible. ENDS products fall into the latter category. Due to the complex and continually evolving nature of noncombustible tobacco products, the methodology and levels of taxation vary drastically among the 9 states, District of Columbia, and 2 territories currently taxing e-cigarettes. (See Section 4.3.)

Combustible tobacco products are those that are designed to be ignited and burned in order to produce smoke. Examples include, but are not limited to, conventional cigarettes, cigars, shisha, water pipes, and beedis. Hookah, shisha, water pipes or any instrument used for vaping and smoking flavored tobacco are unique forms of combustible products because they pass through a water basin before inhalation (CDCb, 2017).

Noncombustible products include smokeless tobacco products such as chewing tobacco or snuf. Noncombustible products also include the newly developed products that are battery operated or electronic in nature, and are designed to deliver an inhaled dose of nicotine or other substances. Figure 4.1.2 below details which products are classified as combustible and noncombustible tobacco products.

Figure 4.1.2: Combustible and Noncombustible Tobacco Products

Product	Combustible vs. Noncombustible	Description
Cigarettes	Combustible	A product containing tobacco, chemical additives, a filter, and paper wrapping that is designed to be smoked.
Cigars, cigarillos, and other combustible products	Combustible	Any combustible tobacco product that is designed to be smoked – other than cigarettes – including cigars, cigarillos, little cigars, blunts, and bidis or beedis (small, flavored filterless Indian cigarettes).
E-cigarettes and other electronic nicotine delivery system (ENDS) products	Noncombustible	Electronic and/or battery-operated devices designed to deliver an inhaled dose of nicotine or other substances. Examples include electronic cigarettes (e-cigarettes), electronic cigars, electronic cigarillos, electronic hookah, vaporizers, and vape pens. ENDS does not include any device or medication approved by the

		government as nicotine replacement therapy.
Hookah, shisha, and water pipes	Combustible	A single or multi-stemmed instrument for vaporizing and smoking flavored tobacco (shisha or sheesha) or other products in which the vapor or smoke is passed through a water basin – often glass-based – before inhalation. Water pipes are known by a variety of names such as hookah, huqqah, nargilah, nargile, arghila, and qalyan.
Loose tobacco leaf	Combustible	Including roll your own (RYO) tobacco for hand rolling cigarettes and pipe tobacco (not including chewing tobacco).
Smokeless tobacco products	Noncombustible	Tobacco products that are used by means other than smoking, such as chewing, sniffing, or placing between the teeth and gum. Examples include chewing tobacco, dipping tobacco, snuf, snus, gutkha or gutka, and dissolvable tobacco products.

Source: Campaign for Tobacco-Free Kids, 2015

4.2 – Methods of Taxation

There are two basic ways to tax tobacco products, a specific tax or an ad valorem tax. Most state excise taxes on products such as alcohol, combustible tobacco products, and gasoline are levied as a "specific tax," or a tax based on volume. Some states have chosen to tax noncombustible tobacco products such as e-cigarettes on an ad valoreum basis, meaning a percentage of the sale price of the product rather than the specific tax (Tax Foundation, 2016).

The specific tax method avoids discriminating between disposable and reusable products and does not negatively impact lower-income cigarette smokers who may want to switch to e-cigarettes. Regarding this, the Tax Foundation states, "whether intentionally or not, using ad valorem taxes on e-cigarette products results in disparate tax treatment of these products. Some e-cigarette products are single-use, while others are rechargeable and refillable. An ad valorem tax hits disposable e-cigarettes harder than a specific tax, since disposables include the value of the plastic device itself, not just the e-fluid, in its sale price. Because single-use e-cigarettes do not require the prior purchase of a personal vaporizer device,

they may be favored by lower-income smokers, upon whom the comparably higher tax could fall disproportionately. Moreover, for either type of device, high taxes may prove prohibitive for low-income smokers wishing to transition away from traditional cigarettes." (Tax Foundation, 2016).

The majority of states' e-cigarette products tax is on a specified amount per milliliter (ml) of product (specific tax) rather than a percentage of the wholesale or retail cost (ad valoreum).

4.3 – Taxation of E-Cigarettes in the United States

As there is still a substantial amount of research taking place to determine the health costs of e-cigarette products, there has not been much guidance regarding how to tax them. The FDA's findings and guidance on the relative risks of e-cigarette products and new products that enter the market will, in many ways, inform the state legislative process on taxing. Legislators must first determine whether e-cigarette products should be classified as either combustible or noncombustible tobacco products and secondly whether they should be taxed. States which have levied special taxes on e-cigarette products to date have relied on distinctive plan rationales and executed different methods of taxation (Tax Foundation, 2016).

As of September 15, 2018, 9 states (California, Kansas, Louisiana, Minnesota, North Carolina, Pennsylvania, West Virginia, Delaware, and New Jersey), the District of Columbia, Puerto Rico and the U.S. Virgin Islands have imposed a tax on e-cigarette products. Kansas, Louisiana, North Carolina, West Virginia, Delaware, and New Jersey tax e-cigarette products per milliliter of e-liquid. California, Minnesota, Pennsylvania, District of Columbia, and U.S. Virgin Islands tax e-cigarette products on a percentage of a specified cost. Puerto Rico taxes the e-cigarette device themselves, only if disposable, and the nicotine cartridge per milliliter of consumable liquid.

Figure 4.3.1: E-Cigarette Products Tax Implementation by State

State	Started Implementing Tax	Current E-Cigarettes Products Tax Rate
California	4/1/2017	65.08% wholesale cost
Kansas	7/1/2016	$0.05 per milliliter of consumable material
Louisiana	7/1/2015	$0.05 per liquid milliliter of nicotine liquid solution
Minnesota	8/1/2010	95% wholesale price
North Carolina	6/1/2015	$0.05 per fluid milliliter
Pennsylvania	7/13/2016	40% of the purchase price from the wholesaler
West Virginia	7/1/2016	$0.075 per fluid milliliter
Delaware	1/1/2018	$0.05 per fluid milliliter
New Jersey	9/29/2018	$0.10 per fluid milliliter
District of Columbia	10/1/2015	65% wholesale sales price
Puerto Rico	4/29/2017	$3.00 each e-cigarette device; or $0.05 per milliliter of nicotine cartridge
U.S. Virgin Islands	10/15/2014	45% wholesale cost

Sources: Centers for Disease Control and Prevention (2018). STATE System E-Cigarette Fact Sheet. [https://chronicdata.cdc.gov/Legislation/STATE-System-E-Cigarette-Fact-Sheet/qte6-7jwd; Louisiana], Public Health Law Center (2018). U.S. E-Cigarette Regulation: A 50-State Review. [http://publichealthlawcenter.org/sites/default/files/E-Cigarette-Legal-Landscape-50-State-Review-September-2018.pdf], Louisiana Department of Revenue.

Minnesota charges the highest excise tax at 95% of wholesale price; Louisiana, North Carolina, Kansas, and Delaware charge the lowest excise tax at $0.05/ml of liquid. On July 1, 2017, the state of Kansas decreased their tax rates from $0.20/ml to $0.05/ml of consumable material (Kansas Department of Revenue, 2017). In the summer of 2017, California decided to follow Minnesota and the District of Columbia's pursuit of a higher percentage wholesale/retail price tax on e-cigarette products increasing from 27.3% to 65.08% (California State Board of Equalization-d, 2017).

According to the Tax Foundation, Kansas and Louisiana each imposed a tax on e-cigarette products at $0.05/ml to help close budget shortfalls. In 2015, Kansas faced a deficit of nearly $600 million and Louisiana faced a deficit of $1.6 billion (Tax Foundation, 2016).

Minnesota, the first state to tax e-cigarette products, imposed the tax at a rate of 70% of the wholesale price. On October 22, 2012, the state's Department of Revenue issued a revenue notice stating that because electronic cigarettes are a "product containing, made, or derived from tobacco" and intended for consumption, they fell under the definition of "other tobacco products." As a result, they are now taxed at the rate of 95% of the wholesale price. Minnesota, in addition to being the first state to tax e-cigarette

products, is also the only state to do so administratively rather than legislatively (Minnesota Department of Revenue, 2017) (Tax Foundation, 2016).

State by State Taxation Analysis

The states who currently tax e-cigarettes were sent a Request for Information by the Louisiana Department of Revenue (LDR) regarding the collection of this tax for the purposes of this report. (See Appendix A for the Request for Information sent to each state.) Below is a summary of relevant information from the responses that were received. New Jersey is not included below because their e-cigarette products tax legislation was not passed until after responses were collected.

California

The California Department of Tax and Fee Administration does not collect any specific data for taxes on e-cigarettes. Receipts from the tax on e-cigarettes is included in the receipts they collect and transmit to the California Department of Finance for taxes on "other tobacco products." Since the tax on e-cigarettes was adopted at the same time as a significant increase in this tax rate, it is very difficult to estimate with accuracy the amount of tax collections on e-cigarettes. Nonetheless, California assumes that the amount of revenues received for the "other tobacco products" taxes on e-cigarettes was about $32 million in 2017-18. However, this estimate is simply based on Minnesota's experience with an e-cigarette tax adjusted for California's higher population and lower tax rate. See Appendix B for a full text response from California.

Delaware

Delaware cannot provide specific tax collection data. See Appendix C for a full text response from California.

Kansas

Kansas has collected approximately $1,692,062.31 since the $.05 per milliliter tax went into effect on July 1, 2017. See Appendix D for a full text response from Kansas. Appendix I includes an in-depth tax collection analysis from February 2017 to June 2018.

North Carolina

North Carolina has collected approximately $11,622,758.09 since July 2015. See Appendix E for a full text response from North Carolina. North Carolina also provided an in-depth analysis of e-cigarette tax collections by month from July 2015 to June 2018. See Appendix I for details.

Minnesota

Minnesota began taxing e-cigarettes in October of 2012 when it was determined that they meet the definition of a tobacco product (found in Minnesota Statutes, section 297F.01, subdivision 19) and are therefore subject to the Tobacco Tax, which is currently 95% of the wholesale cost of any product derived from tobacco. A full year of information for FY18 collections is not available yet. It should be noted that the $21,200,000 in revenues mentioned last year are estimates not actuals. Vapor products are part of Minnesota's Other Tobacco Products tax, and they do not have a way to exactly separate out what is vapor and what is not. See Appendix F for a full text response from Minnesota.

Pennsylvania

Pennsylvania began taxing e-cigarettes in October 2016 with the passage of Act 84. This Act created a tax on other tobacco products that included e-cigarettes and set the tax on e-cigarettes and the liquid

substances to be used with them at 40% of the purchase price from the wholesaler. While the tax went into effect in October 2016, the first returns were not due until January 20, 2017, and contained three months of collections. In all, Pennsylvania has collected approximately $37,700,000 since inception. See Appendix G for a full text response from Pennsylvania. Appendix I includes an in-depth tax collection analysis from January 2017 through June 2018 for Pennsylvania.

West Virginia

West Virginia Code §11-17-4b of the Tobacco Products Excise Tax Act covers electronic cigarette liquids. This excise tax is $0.075 per milliliter of liquid, regardless of content. Wholesalers are responsible for this tax, but retailers and individuals assume the responsibility when applicable. The effective start date was July 1, 2016. West Virginia has collected approximately $2,552,892.80 since inception. See Appendix H for a full text response from West Virginia.

4.4 – Taxation of E-Cigarettes in Louisiana

Excise taxes make up approximately 3% of the federal budget and on average about 2% of state budgets (Tax Foundation, 2016). Louisiana Revised Statute 47:854(A) provides that "it is the intent and purpose of the Tobacco Tax Law to levy an excise tax on products as defined that are sold, used, consumed, handled or distributed in the state and to collect the tax from the dealer" (RS 47:854, 2015). Louisiana excise taxes include taxes on tobacco products for any person who manufactures or imports cigars, cigarettes, smoking or smokeless tobacco for distribution, sale, use, or consumption (LDRb, 2017).

Louisiana began taxing electronic cigarettes on August 1, 2015 with the passage of Act 94 in the 2015 Regular Session. Act 94 amended Louisiana Revised Statute 47:841 and set the rate of taxation, defined e-cigarettes, and established the Tobacco Regulation Enforcement Fund.

Rate of Taxation

The rate of taxation for e-cigarettes was set at $.05 per milliliter of e-liquid or consumable nicotine liquid solution or other material containing nicotine that is depleted as a vapor product is used (Louisiana State Legislature, 2015).

Definition of E-Cigarettes

E-cigarettes were defined in Act 94 as "any noncombustible product containing nicotine or other substances that employ a heating element, power source, electronic circuit, or other electronic, chemical or mechanical means, regardless of shape or size, used to produce vapor from nicotine in a solution or other form." These products include "any electronic cigarette, electronic cigar, electronic cigarillo, electronic pipe, or similar product or device and any vapor cartridge or other container of nicotine in a solution or other form that is intended to be used with or in an electronic cigarette, electronic cigar, electronic cigarillo, electronic pipe, or similar product or device" (Louisiana State Legislature, 2015).

Tobacco Regulation Enforcement Fund

The Tobacco Regulation Enforcement Fund was created from Act 94 as a special fund to provide support to the Office of Alcohol and Tobacco Control (ATC) for the purposes of tobacco regulation enforcement. The fund is sourced from a portion of the revenue from the state tax on cigarettes (Louisiana State Legislature, 2015).

Tax Collection Process

Payment of Taxes

Regarding which entities are responsible for payment of the tax, Revenue Information Bulletin No. 15-032 states, "…the tax is due from the dealer who first sells, uses, consumes, handles or distributes the product in the state of Louisiana. For traditional tobacco products, that is usually the wholesaler, but in some instances, it can be the manufacturer or the retail dealer receiving the product who is responsible for remitting tax." (LDRa, 2017). If vapor products are received from someone other than a Louisiana Authorized Tobacco Wholesaler, the purchaser is responsible for the tax.

Role of the Louisiana Department of Revenue

Pursuant to La. R.S. 47:841(F), LDR collects the tax on electronic cigarettes from wholesale dealers and retail dealers. Wholesale dealers file the Tobacco Tax Return (R-5604) monthly and indicate the amount of tax due for electronic cigarettes sold per month. Retail dealers file the Tobacco Tax Return for Retail Dealers of Vapor Products (R-5608) to indicate the amount of tax due for electronic cigarettes sold per month. The returns are due on or before the 20th day of the month following the taxable period. Individual consumers who have purchased non-tax paid product through mail or the internet file the Consumer Excise Tax Return (R-5629) to indicate the amount of tax due for E-cigs purchased per month. The funds collected for the tax on electronic cigarettes are not statutorily dedicated like the funds collected for the tax on cigarettes. Therefore, the funds are placed into the General Fund.

Role of the Office of Alcohol and Tobacco Control

The role of the Office of Alcohol and Tobacco Control (ATC) includes issuing permits to entities selling tobacco products and enforcement activities. Louisiana Revised Statute Title 46, Section 906 provides that:

> Every person who sells or is about to engage in a business of selling at retail, at wholesale, or by vending machine, or is about to engage in the business of receiving stamped or non-tax paid cigarettes, cigars or other tobacco products (emphasis added), or any or all of the articles taxed in accordance with Title 47 of the Louisiana Revised Statutes of 1950 shall first apply for and obtain a permit from the office (ATC).

A wholesale dealer needs a permit for each wholesale place of business operated by the wholesale dealer, and the wholesale permit fee is $75 per year. Retail dealers need a permit for each retail outlet, and the retail permit fee is $25 per year. Retail dealers also need to be registered with the LDR for the purpose of remitting sales tax on retail transactions. The listing of Louisiana authorized tobacco wholesalers and retailers is collected and maintained by the ATC (LDRb, 2017).

There are four types of permits: Retail, Stamping Agent, Vending Machine and Wholesaler. The permit is issued once the application is received, general requirements are verified, and an inspection is conducted.

The ATC is a division of LDR and assists LDR in tax collection efforts by: 1) ensuring tobacco products are stamped (which indicates taxes have been paid in advance as required by law), 2) conducting tax collection hearings for permit holders which are delinquent in paying taxes, and 3) conducting routine inspections to ensure general requirements are followed. The ATC's enforcement efforts are focused

on the following tasks as it relates to tobacco sales: inspections, audits, compliance checks, complaint investigations and general investigations.

Inspections

Every permitted location is inspected by a uniformed agent yearly for general requirements. Inspections are unannounced. Agents utilize a checklist which is designed to ensure that general requirements confirmed in the initial inspection are still being met. Additionally, agents are trained to observe, document and cite any practice, situation or observation which is inconsistent with state law or otherwise against the interest of public health and/or safety.

Audits

Audits are conducted less frequently and usually are associated with an investigation. While inspections are focused on general requirements, an ATC audit is a review of the permit holder's financial and tax records.

Compliance Checks

Compliance checks are mini operations run by ATC agents to ensure that permit holders are not selling tobacco products to under-aged patrons. The ATC maintains a roster of paid operatives and witnesses. The team, comprised of an agent, a witness and an operative, typically visits permitted locations and simply documents attempted purchases by the operative. Locations which check ID and turn away the operative are sometimes issued a compliance certificate. If a sale occurs, the agent writes a citation.

Complaint and General Investigations

An ATC investigation takes place in two forms.

Complaint Investigation: The ATC investigates 100% of the complaints it receives no matter how the complaint is made and whether or not the complaint is anonymous. The agency maintains a log which documents when the complaint was received, what agent was assigned the investigation, and what the resolution was.

General Enforcement: Title 26 provides that a permit holder must abide by all federal, state and local laws in order to remain compliant and in good standing. Often during the normal course and scope enforcement/regulation, there is evidence of illegal activity. ATC agents will typically investigate the activity internally. However, the agency often partners with other local, state and federal law enforcement agencies depending on what illegal activity is suspected.

Tax Revenue

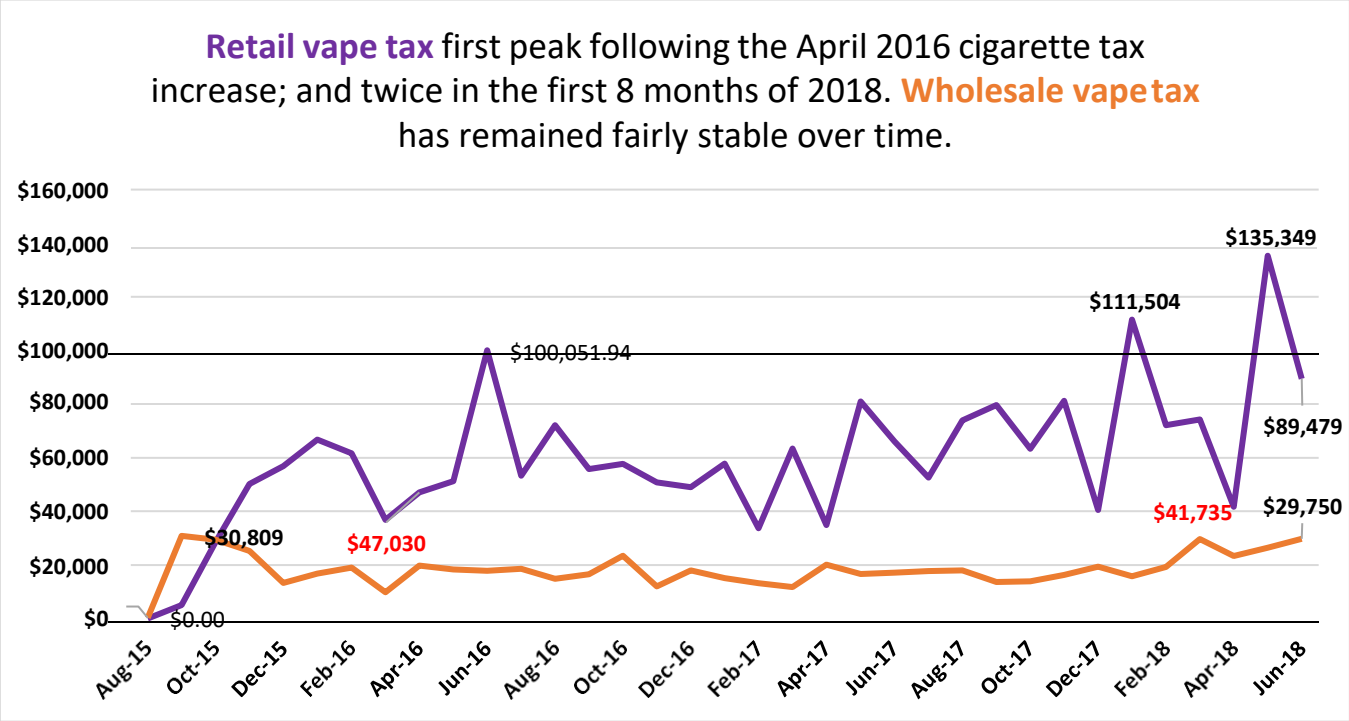
Figure 4.4.1 below shows the combined tax revenue from wholesale and retail dealers of e-cigarettes in Louisiana from August 2015 through June 2018. In the first full year of collections, 2016, the e-cigarette products tax yielded $908,475.46. A total of $2,736,647.30 has been collected since the inception of the tax in August 2015 through June 2018. See Appendix I for a list of Louisiana's e-cigarette tax collection by month from August 2015 to June 2018.

Monthly wholesale vape tax collections peaked in September 2015 and has not exceeded $31,000 in a single month (September 2015). Of note, when the 22 cent cigarette tax increase went into effect there

was an increase in vape liquid sales. In contrast, cigarette purchases typically decline during the months following a cigarette tax increase.

Monthly retail vape tax collections surpassed wholesale tax collections in October 2015, and has remained consistently and substantially higher. In May 2018, Louisiana collected $135,349 in retail vape tax, the highest monthly collection to date. January 2018 recorded the second highest collection to date, $111,504.

Figure 4.4.1: Combined wholesale and retail dealers' collections for electronic cigarette products in Louisiana from August 2015 to June 2018.



Source: Louisiana Department of Revenue

4.5 – Taxation of E-Cigarettes Challenges

The states who currently tax e-cigarette products were sent a Request for Information by LDR regarding the challenges they have incurred from taxation and regulation of e-cigarette products collection of this tax for the purposes of this report. Responses were received from five states. Below is a summary of relevant information from the responses that were received. Complete responses from each state are available in appendices B through H.

California

California faces the following challenges:

1. Determining if prepackaged products include nicotine products - We have found prepackaged delivery systems with e-juice are not clearly labeled whether they contain nicotine. This may be resolved as the industry develops and uniform labeling requirements emerge.
2. Packaged products that contain the delivery system and e-juice with nicotine - Taxpayers try to segregate the cost and only include the nicotine portion as taxable product. We are working through our regulatory process to provide guidance to taxpayers on e-cigarette products sold in combination with nicotine products and their application of tax along with providing guidance on our webpages.
3. Recent challenges for our Investigations area include the storage, permit, and safety requirements relating to handling liquid nicotine (e-juice).
    - Storage and permit requirements under CA Law for liquid nicotine
      Liquid nicotine (e-juice) regardless of its potency is considered to be a hazardous material in California. Once liquid nicotine is seized and it is known that it will not be returned to the taxpayer (meaning, it will be discarded/disposed of), the liquid nicotine at that point becomes defined as a hazardous waste (discarded waste). Depending on where you live in California, you are required to obtain certain local city/county permits to be able to store and dispose of discarded liquid nicotine (hazardous waste). You are also required to pay fees for these permits and pay annual fees to store/dispose of liquid nicotine. Our agency is working with the local city or county areas to obtain the necessary permits needed to store and dispose of liquid nicotine.
    - Suggested safety requirements to follow when handling liquid nicotine
      As a precautionary measure, safety glasses and gloves were recommended when handling liquid nicotine. The gloves were nitrile gloves which are latex free, puncture and chemical resistant. These were recommended by California's Division of Occupational Safety and Health.

Delaware

Delaware is faced with the challenge of having to identify individual wholesalers selling vapor products into Delaware. The Agency has a field auditor visiting retailers and requesting invoices from their suppliers.

Kansas

The original legislation was to be enacted July 2016 with a $0.20 per milliliter tax on e-cig consumable materials. The implementation date was pushed back to January 1, 2017 and the rate was changed to $0.05 per milliliter. Businesses started collecting in January 2017, but the Legislature moved the implementation date back to July 2017. Any taxes remitted prior to June 2017 were credited towards amounts due July 2017 and after. According to the Kansas Department of Revenue the receipts started to normalize around October-November 2017.

Minnesota

Minnesota report no changes from last year's Request for Information. Below is their previous response.

One of the challenges faced by Minnesota is that the tobacco tax statute does not provide clear guidance on e-cigarette products. The current excise tobacco statute provides inconsistent treatment of similarly situated e-cigarette products. E-cigarette products are currently taxed at the tobacco excise tax rate of

the 95% of the wholesale cost. In many circumstances this tax assessment is made only on the nicotine solution itself, rather than on the sale of the final consumable product. Meanwhile e-cigarette products that are in a consumable form when brought into Minnesota are taxed at the same 95% rate but on a much higher value. This results in a significant tax discrepancy for two very similar products: artificially low tobacco taxes on e-cigarette products when the final (often flavored) solution is mixed in Minnesota, as is most often the case for vapor shops; high tobacco taxes for similar products that are shipped into Minnesota in their final consumable form. During the 2017 legislative session, a bill was proposed that would have modified the tobacco tax statute to standardize how e-cigarette products are taxed in Minnesota. However, the proposal did not advance.

Pennsylvania

A court case decided in June (East Coast Vapor v. Pennsylvania Department of Revenue) determined that separately packaged component parts of e-cigarettes cannot be taxed under PA's Tobacco Products Tax Act. However, the court also ruled that it is not unconstitutional for Pennsylvania to tax electronic cigarettes and e-liquid as "tobacco products" even if they do not deliver tobacco. The department is still considering the revenue loss from separately packaged component parts.

West Virginia

The biggest challenge now is system read accuracy of paper reports. A report is ran and if a large difference in taxes due is noticed from the previous months, the amounts on the paper reports are verified and the accounts are corrected. A new report, which shows an accurate collection, is ran.

It was discovered that some West Virginia e-cigarette liquid manufacturers created an exorbitant amount of liquids prior to the effective date of the new tax, in order to delay tax payments. There was confusion among manufacturers about the differences in the wholesale and the retail tax of e-cigarettes, resulting in difficulties for tax administrators and enforcement.

Louisiana

For the purposes of this report, the Office of Alcohol and Tobacco Control (ATC) and LDR were asked to detail organizational challenges caused by the regulation and taxation of e-cigarette and e-cigarette products in Louisiana. What follows are their responses.

Office of Alcohol and Tobacco Control

There are several challenges posed by the regulation and taxation of electronic cigarettes and e-cigarette products. Currently, vapor and e-cigarette products are not entirely distributed through licensed wholesalers as other tobacco products are. There is no tax stamp purchased in advance and required to be affixed to the product itself. Thus, it is more challenging to monitor the distribution and tax collection efforts. Additionally, there are safety and legal questions and issues involved as it relates to adulterated products. Many of the products sold can contain additives which are added at the retail level with no supervision or control. Finally, any attempt to apply the existing tobacco distribution model to these new products will be met by some resistance from wholesalers. Wholesale operations in most cases are automated and designed to sort and ship product packaged in standard established sizes. Without standardizing packaging, wholesalers would have to manually handle the product or invest in new or adapted automated processes and both options could be expensive.

The Louisiana Department of Revenue

LDR reported that the same challenges in taxing e-cigarette products exist as stated in the previous legislative report. The challenges included lack of staff, educating the staff and potential taxpayers, no requirement for vapor retail dealers or vape shops to register with LDR, no requirement for vapor retail dealers or vape shops to provide a bond, and inability to identify vape shops.

4.6 – Taxation of E-Cigarettes Recommendations

According to the CDC and the 2016 Surgeon General's Report, interventions of an evidence-based comprehensive tobacco control program include raising tobacco taxes, implementing comprehensive smoke-free laws, funding mass-media campaigns, and making cessation services accessible to all. These interventions have been shown to reduce youth initiation, tobacco-related disease and death, and tobacco-related healthcare costs and lost productivity. Therefore, it is recommended to continue to tax noncombustible tobacco products such as e-cigarettes.

The ATC and LDR were asked to provide organizational recommendations for the taxation and regulation of e-cigarette products in Louisiana. Below are their responses:

The Office of Alcohol and Tobacco Control did not feel that they were in a position to provide recommendations at this time.

The Louisiana Department of Revenue stated:

> Less than 100 vapor retail dealers and vape shops are filing the monthly tobacco tax return. Therefore, we recommend statutorily requiring vapor retail dealers and vape shops to register with the Department of Revenue and provide a bond, which can be applied towards an outstanding tax liability. In addition, we recommend a penalty for vapor retail dealers and vape shops engaging in business without a license from the Department of Revenue, Office of Alcohol and Tobacco Control.

Section 5 – Conclusion

In summary, there are few longitudinal studies regarding the health, cessation potential and taxation of e-cigarettes. Therefore, research and recommendations regarding best practices in these areas are limited and preliminary.

There is still much that is not known about the health impacts of e-cigarettes and their potential use as a cessation device. There is also no current guidance on best practices for e-cigarette taxation. This lack of evidence has resulted in states taxing e-cigarettes at different rates, with each state working through considerable challenges as a result of tax implementation. The future legislative process for e-cigarette taxation will be greatly impacted by the FDA's future research and subsequent guidance on the relative risks of vapor products.

The long-term health impacts of e-cigarettes are largely unknown. Research thus far indicates that although electronic cigarettes are not as harmful as combustible cigarettes, they are not harmless. Preliminary findings indicate that the inhalation of e-cigarettes can impact the airways and can potentially damage the lungs.

Any e-cigarette use among young people is unsafe. Because brain development begins in the womb and continues until about age 25, youth consumers are particularly vulnerable to the consequences of nicotine exposure. Nicotine exposure during adolescence can impact learning, memory, and attention, as well as increase drug seeking behaviors. Because of the surge of e-cigarette use among youth between 2017 and 2018, the FDA has declared this an epidemic and is taking immediate action to address this challenge.

Evidence shows that among youth and young adults, e-cigarette use can lead to conventional smoking (U.S. Department of Health and Human Services, 2016). Conversely, among non-pregnant adult smokers, there is incomplete evidence that suggests transitioning completely to e-cigarettes may reduce overall tobacco-related harm. Data shows that dual usage (the use of conventional cigarettes and e-cigarettes) is a common practice.

Nicotine and aerosols in e-cigarettes have the potential to cause various negative health impacts. E-cigarettes are not an FDA-approved quit resource. Louisiana residents trying to quit smoking are encouraged to call 1-800-QUIT-NOW to receive evidence-based cessation help, such as telephone counseling and medication. Eligible residents are also encouraged to connect with the Smoking Cessation Trust. In addition, residents are reminded to check their health plans for cessation coverage.

States are responsible for establishing the definition of an e-cigarette product and then determining the method and rate of taxation. Nine states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands currently tax e-cigarette products. Six states issue a specific tax on e-cigarette products. Three states issue an ad valoreum tax on e-cigarette products. The FDA has jurisdiction limitations on restricting tobacco products, therefore, state, local, territorial, and tribal tobacco control strategies are of the utmost importance.

Louisiana issues a specific tax on e-cigarette products at a rate of $0.05 per milliliter of e-liquid, consumable nicotine liquid solution, or other material containing nicotine that is depleted as a vapor product is used. From August 2015 to June 2018, Louisiana collected $2,736,647.30 in tax e-cigarette products revenue. However, less than 100 e-cigarettes retailers are filing the monthly tobacco tax return. Thus, it is recommended that all e-cigarette retailers be required to register with the Louisiana Department of Revenue. It is also recommended that a penalty be enforced for retailers that conduct e-cigarette business without registering.

The Louisiana Department of Health's Tobacco Cessation and Prevention program works statewide to provide resources and education on tobacco use, secondhand smoke exposure, and cessation services. Additionally, the program manages the operation of the state's Tobacco Quitline, 1-800-QUIT-NOW.

Resources can be found by visiting www.quitwithusla.org or www.wellaheadla.com/Living-Well-Ahead/Geaux-Tobacco-Free.

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Appendices

Appendix A
Louisiana Department of Revenue Request for Information

Email template-Request for Information
From: research@taxadmin.memberclicks.net [mailto:research@taxadmin.memberclicks.net]
Subject: [Research] Request for Information
Pursuant to La. R.S. 47:841(F) Louisiana imposes a tax on vapor products and electronic cigarettes. The tax is five cents per milliliter of consumable nicotine liquid solution or other material containing nicotine that is depleted as a vapor product is used. We are requesting the following information from the states of California, Kansas, Minnesota, Pennsylvania, West Virginia and North Carolina:

5. How are vapor products and electronic cigarettes tax in your state? Please provide the statute.
6. When did the tax become effective?
7. Has the tax rate increased or decreased?
8. Please provide electronic cigarette collection data since inception of the tax.

This information is needed for a report to the House Committee on Ways and Means and the House Committee on Health and Welfare. Thanks for your assistance.

Alyssa Johnson

From: Shanda McClain
Sent: Wednesday, August 29, 2018 10:00 AM
To: Porsha Vallo
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Porsha,

Below is the email from California.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Chamberlain, Jay <Jay.Chamberlain@dof.ca.gov>
Sent: Thursday, August 23, 2018 3:59 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>; 'Sherrod, Lisa' <Lisa.Sherrod@cdtfa.ca.gov>
Cc: Lee, Michael <Michael.Lee@cdtfa.ca.gov>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Hi Shanda,

We don't have any new information related to question 4. The California Department of Tax and Fee Administration does not collect any specific data for taxes on e-cigarettes. Receipts from the tax on e-cigarettes is included in the receipts they collect (and transmit to my department, the California Department of Finance) for taxes on "other tobacco

products". And since the tax on e-cigarettes was adopted at the same time as a significant increase in this tax rate, it is very difficult to estimate with accuracy the amount of tax collections on e-cigarettes. Nonetheless, we are assuming that the amount of revenues we will receive of the "other tobacco products" taxes on e-cigarettes was about $32 million in 2017-18. But this estimate is simply based on Minnesota's experience with an e-cigarette tax adjusted for California's higher population and lower tax rate.

I hope that helps.

Jay Chamberlain

Chief, Revenue and Taxation Unit
California Department of Finance

From: Shanda McClain [mailto:Shanda.McClain@LA.GOV]
Sent: Thursday, August 23, 2018 1:04 PM
To: 'Sherrod, Lisa' <Lisa.Sherrod@cdtfa.ca.gov>; Chamberlain, Jay <Jay.Chamberlain@dof.ca.gov>
Cc: Lee, Michael <Michael.Lee@cdtfa.ca.gov>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Jay and Michael,

Can one of you provide a response for Question 4? I need to provide an update by August 30th. Thanks.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Sherrod, Lisa <Lisa.Sherrod@cdtfa.ca.gov>
Sent: Monday, August 6, 2018 11:13 AM
To: jay.chamberlain@dof.ca.gov
Cc: Lee, Michael <Michael.Lee@cdtfa.ca.gov>; Shanda McClain <Shanda.McClain@LA.GOV>
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Good morning,

See below. Shanda is requesting further information on Question 4 which you had answered last October. Do you have any update?

Thanks, Lisa

From: Shanda McClain [mailto:Shanda.McClain@LA.GOV]
Sent: Monday, August 06, 2018 6:32 AM
To: Sherrod, Lisa
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Lisa,

Thanks for the update. Can you provide information for question 4 below?

4. Please provide electronic cigarette collection data since inception of the tax.
   Unfortunately, we do not collect separate data on electronic cigarette taxes. But, based on the cash receipts for total "other tobacco products" the impact of taxing electronic cigarettes does not appear to have been large. We are assuming that the taxation of electronic cigarettes will generate about $32 million of tax revenue in the 2017-18 fiscal year, out of total cigarette and other tobacco-product revenue of about $2.1 billion.

Shanda J. McClain
Attorney 4-Excise
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This communication constitutes "informal advice" from the Policy Services Division of the Louisiana Department of Revenue as contemplated by LAC 61:III.101 and is not binding on the Department of Revenue or the person seeking the advice.

From: Sherrod, Lisa <Lisa.Sherrod@cdtfa.ca.gov>
Sent: Friday, August 3, 2018 3:31 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Cc: Lee, Michael <Michael.Lee@cdtfa.ca.gov>; jay.chamberlain@dof.ca.gov
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Hello Shanda,

Your follow up question was forwarded to me and our response is below:

1. What challenges are you facing enforcing the tax, how are the challenges being eliminated and do you have any recommendations?

    - Determining if prepackaged products include nicotine products - We have found prepackaged delivery systems with e-juice are not clearly labeled whether they contain nicotine. This may be resolved as the industry develops and uniform labeling requirements emerge.
    - Packaged products that contain the delivery system and e-juice with nicotine - Taxpayers try to segregate the cost and only include the nicotine portion as taxable product. We are working through our regulatory process to provide guidance to taxpayers on ecigarette products sold in combination with nicotine products and their application of tax along with providing guidance on our webpages.
    - Recent challenges for our Investigations area include the storage, permit, and safety requirements relating to handling liquid nicotine (e-juice).
        - Storage and permit requirements under CA Law for liquid nicotine

          Liquid nicotine (e-juice) regardless of its potency is considered to be a hazardous material in California. Once liquid nicotine is seized and it is known that it will not be returned to the taxpayer (meaning, it will be discarded/disposed of), the liquid nicotine at that point becomes defined as a hazardous waste (discarded waste). Depending on where you live in California, you are required to obtain certain local city/county permits to be able to store and dispose of discarded liquid nicotine (hazardous waste). You are also required to pay fees for these permits and pay annual fees to store/dispose of liquid nicotine. Our agency is working with the local city or county areas to obtain the necessary permits needed to store and dispose of liquid nicotine.
        - Suggested safety requirements to follow when handling liquid nicotine

          As a precautionary measure, safety glasses and gloves were recommended when handling liquid nicotine. The gloves were nitrile gloves which are latex free, puncture and chemical resistant. These were recommended by California's Division of Occupational Safety and Health.

Please let me know if you have any further questions.

Thanks,

Lisa Sherrod
Administrator, Program Administration Branch

California Department of Tax and Fee Administration
450 N Street, MIC: 31, Sacramento, CA 95814
Phone: 916-323-9401
E: Lisa.Sherrod@cdtfa.ca.gov | www.cdtfa.ca.gov

From: Lee, Michael
Sent: Thursday, July 26, 2018 9:27 AM
To: Sherrod, Lisa
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Morning Lisa! Would you please provide an answer to the follow up question from Louisiana below? Feel free to respond to Ms. McClain directly. Thank you.

Michael Lee
Program Advisor, Deputy Director's Office
Business Tax and Fee Division
California Department of Tax and Fee Administration
(916) 445-2806
FAX (916) 322-7175
Michael.Lee@cdtfa.ca.gov

From: Shanda McClain [mailto:Shanda.McClain@LA.GOV]
Sent: Thursday, July 26, 2018 9:11 AM
To: 'Chamberlain, Jay'; Lee, Michael
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Jay and Michael,

I need you to update the vapor products and electronic cigarettes information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Below is the information that you provided.

1. How are vapor products and electronic cigarettes tax in your state? Please provide the statute.
   California voters approved Proposition 56 in November of 2016. Proposition 56, in regards to taxation, increased the per-pack excise tax on cigarettes by $2 and added electronic cigarettes to the goods that are considered to be "other tobacco products". "Other tobacco products" are taxed at a rate determined by the California Department of Tax and Fee Administration (CDTFA). Other tobacco products are taxed based on the wholesale cost of cigarettes at a tax rate which is equivalent to the sum of all the tax rates imposed on cigarettes plus an additional 50 cents per pack.

   Prior to Proposition 56, the equivalent tax rate on other tobacco products was $1.37, and during 2016-17, was levied as a 27.3 percent tax on the retail price of the product. Although the rate is equivalent to a specific dollar amount, CDTFA determines the actual percent levy each fiscal year based on current wholesale cigarette price data. With the adoption of Proposition 56, the per-pack tax on cigarettes increased from $0.87 to $2.87. So the equivalent tax on other tobacco products increased from $1.37 to $3.37.

Based on the new equivalent tax rate of $3.37, as well as current wholesale price data, CDTFA has determined that the 2017-18 fiscal year tax rate on other tobacco products will be 65.08 percent of the retail price of the tobacco product. Sales tax will be levied on top of this. Note that only products sold with actual nicotine liquid are subject to this tax, and the tax is levied on the retail value of the product. Electronic cigarette paraphernalia is not subject to this tax unless it is sold in combination with the nicotine liquid.
"Electronic cigarettes means any device or delivery system sold in combination with nicotine which can be used to deliver to a person nicotine in aerosolized or vaporized form,…" (California Revenue and Taxation Code, Section 30121, subdivision (c) link here http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=RTC&sectionNum=30121.)

Here is a link to our cigarette tax code http://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=RTC&division=2.&title=&part=13.&chapter=2.&article=
but the electronic cigarette piece can all be found in California Revenue and Taxation Code, Section 20121, subdivision (c).

2. When did the tax become effective?
   Electronic cigarettes became taxable as other tobacco products in November, immediately after the passage of Proposition 56, and were thus subject to the 27.3 percent tax on the retail price of the product for the remainder of the 2016-17 fiscal year. The "other tobacco products" tax rate did not start reflecting the additional $2 rate until July 1, 2017. The 2017-18 rate of 65.08 percent will be effective until the end of the fiscal year (June 30, 2018).

3. Has the tax rate increased or decreased?
   It has increased

4. Please provide electronic cigarette collection data since inception of the tax.
   Unfortunately, we do not collect separate data on electronic cigarette taxes. But, based on the cash receipts for total "other tobacco products" the impact of taxing electronic cigarettes does not appear to have been large. We are assuming that the taxation of electronic cigarettes will generate about $32 million of tax revenue in the 2017-18 fiscal year, out of total cigarette and other tobacco-product revenue of about $2.1 billion.

Pursuant to La. R.S. 47:841(F) Louisiana imposes a tax on vapor products and electronic cigarettes. The tax is five cents per milliliter of consumable nicotine liquid solution or other material containing nicotine that is depleted as a vapor product is used. We are requesting the following information from the states of California, Kansas, Minnesota, Pennsylvania, West Virginia and North Carolina:

5. How are vapor products and electronic cigarettes tax in your state? Please provide the statute.
6. When did the tax become effective?
7. Has the tax rate increased or decreased?
8. Please provide electronic cigarette collection data since inception of the tax.

You responded to Vanessa LaFleur's request on behalf of California. I have the following question:

1. What challenges are you facing enforcing the tax, how are the challenges being eliminated and do you have any recommendations?

Thanks for your assistance.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Chamberlain, Jay <Jay.Chamberlain@dof.ca.gov>
Sent: Tuesday, October 31, 2017 4:26 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Subject: RE: [Research] Request for Information

Michael.Lee@boe.ca.gov

From: Shanda McClain [mailto:Shanda.McClain@LA.GOV]
Sent: Tuesday, October 31, 2017 2:14 PM
To: Chamberlain, Jay <Jay.Chamberlain@dof.ca.gov>
Subject: RE: [Research] Request for Information

Hi Jay,

Do you have an email address for Micheal Lee? Thanks.

Shanda J. McClain
Attorney Supervisor-Excise

Alyssa Johnson

From: Shanda McClain
Sent: Wednesday, August 29, 2018 9:53 AM
To: Porsha Vallo
Subject: FW: Request for Vapor Products and Electronic Cigarettes Information

Porsha,

Below is the email from Delaware.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
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From: Brown, Lawrence W (Finance) <lawrence.brown@state.de.us>
Sent: Monday, August 27, 2018 8:29 AM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Cc: Jezyk, Richard L (Finance) <Richard.Jezyk@state.de.us>; Johns, Eliott A (Finance) <eliott.johns@state.de.us>
Subject: RE: Request for Vapor Products and Electronic Cigarettes Information

Good morning,
To answer your questions;

1. In general, Delaware taxes E-Cigs and vape fluids containing nicotine at the rate of $.05 per fluid milliliter of vapor product. Licensed wholesalers collect the tax from customers they have in Delaware and remit it monthly. Licensed retailers who receive product from wholesalers who do not collect the tax must also remit the tax monthly. This can be found under Delaware Code Title 30 Chapter 53 Section 5305 (c2).

2. Delaware's tax became effective January 1, 2018

3. The tax was originally instituted January 1, 2018 and no increase has been levied.

4. We cannot provide specific tax collection data.

5. We are having challenges identifying individual wholesalers selling vapor products into Delaware. We have a field auditor visiting retailers and requesting invoices from their suppliers.

Lawrence Brown
Auditor
Business Audit Bureau
302-577-8675 (Phone)
302-577-8662 (Fax)
Lawrence.brown@state.de.us

From: Shanda McClain [mailto:Shanda.McClain@LA.GOV]
Sent: Monday, August 13, 2018 10:47 AM
To: Brown, Lawrence W (Finance)
Subject: Request for Vapor Products and Electronic Cigarettes Information

Larry,

Pursuant to La. R.S. 47:841(F) Louisiana imposes a tax on vapor products and electronic cigarettes. The tax is five cents per milliliter of consumable nicotine liquid solution or other material containing nicotine that is depleted as a vapor product is used. I am requesting the following information from the State of Delaware to be included in in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report:

1. How are vapor products and electronic cigarettes tax in your state? Please provide the statute.
2. When did the tax become effective?
3. Has the tax rate increased or decreased?
4. Please provide electronic cigarette collection data since inception of the tax.
5. What challenges are you facing enforcing the tax, how are the challenges being eliminated and do you have any recommendations?

Please provide the information by August 20th. If you need additional time, please let me know. Thanks for your assistance.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue

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Confidentiality Statement

INFORMAL ADVICE
This communication constitutes "informal advice" from the Policy Services Division of the Louisiana Department of Revenue as contemplated by LAC 61:III.101 and is not binding on the Department of Revenue or the person seeking the advice.

Alyssa Johnson

From: Shanda McClain
Sent: Wednesday, September 5, 2018 12:17 PM
To: Porsha Vallo
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas
Attachments: KS consumable materials tax.xlsx

Porsha,

Below is the email from Kansas.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Amy Kramer [KDOR] <Amy.Kramer@KS.GOV>
Sent: Thursday, August 30, 2018 4:40 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Cc: Kathleen Smith [KDOR] <Kathleen.Smith@KS.GOV>
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

Shanda,
Attached is monthly receipt data since we started collecting the tax. But, here's the caveat. The original legislation was to be enacted July 2016 with a $0.20/millileter tax on e-cig consumable materials. The implementation date was pushed

back to January 1, 2017 and the rate was changed to $0.05/millileter. Businesses started collecting in January 2017, but the Legislature moved the implementation date back to July 2017. So, anything remitted June 2017 and prior was credited towards amounts due July 2017 and after. It looks like the receipts started to normalize around October-November 2017.

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Wednesday, August 29, 2018 9:40 AM
To: Kathleen Smith [KDOR] <Kathleen.Smith@KS.GOV>
Cc: Marcia Rosencutter [KDOR] <marcia.rosencutter@ks.gov>; Amy Kramer [KDOR] <Amy.Kramer@KS.GOV>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

Kathleen,

Justin provided the following information:

KS charges a $.05 per milliliter tax on consumable material for anyone selling or dealing electronic cigarettes in the state. Consumable material is defined as any liquid solution or other material that is depleted as an electronic cigarette is used. The law went into effect 7/1/17 and current FY collections are approximately $140k.

Well, getting everything off the ground was a long, arduous process. The KS Legislature originally approved measures to begin taxation in I believe 2014. The Department then asked them to push the implementation date out from I think 2016 to 1/1/17. During CY 2016, the Department began meeting with numerous industry representatives to iron out the regulations that would be the backbone of the law. Unfortunately, that process got bogged down and the Department was unable to get regulations passed by 1/1/17. During the 2017 Legislative Session, the Department continued working with industry representatives since there was some resistance to some of the definitions the Department was proposing. We were able to iron out an agreement and get a bill passed this year that clarified in statute the definition for consumable material (the biggest area of concern for industry) and it went into effect 7/1/17.

As far as I know, there haven't been too many issues with enforcement after everyone came to an agreement on this year's legislation. The vendors are just required to submit monthly returns. Let me know if I can be of any more assistance.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Kathleen Smith [KDOR] <Kathleen.Smith@KS.GOV>
Sent: Wednesday, August 29, 2018 9:31 AM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Cc: Marcia Rosencutter [KDOR] <marcia.rosencutter@ks.gov>; Amy Kramer [KDOR] <Amy.Kramer@KS.GOV>
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

Shanda-would you be able to provide the information that Kansas needs to update?

From: Marcia Rosencutter [KDOR]
Sent: Wednesday, August 29, 2018 9:18 AM
To: Kathleen Smith [KDOR] <Kathleen.Smith@KS.GOV>
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

Hello. Can you tell me who took over Justin's duties and can provide information?

Marci

Marcia Rosencutter
Cigarette and Tobacco Manager
Kansas Department of Revenue
Customer Relations / Cigarette and Tobacco
Phone: 785-296-2652
Cell: 785-250-3824
Fax: 785-296-4993
Marcia.Rosencutter@ks.gov | www.ksrevenue.org
Scott Building
120 SE 10th Ave.
Topeka, KS 66612-1588

STATE OF KANSAS
DEPARTMENT OF REVENUE

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Thursday, August 23, 2018 2:48 PM
To: Marcia Rosencutter [KDOR] <marcia.rosencutter@ks.gov>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

EXTERNAL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Ms. Rosencutter,

Can you provide an update on the vapor products and electronic cigarettes information requested below? I need to provide an update by August 30th. Thanks.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Shanda McClain
Sent: Friday, August 10, 2018 11:41 AM
To: 'marcia.rosencutter@ks.gov' <marcia.rosencutter@ks.gov>
Subject: [Research] Request for Information Vapor Products and Electronic Cigarettes--Kansas

Ms. Rosencutter,

Last year Justin Carroll provided information regarding Kansas' vapor products and electronic cigarettes. I sent the email below to Justin requesting updated information but it was returned as undeliverable. Can you or someone else assist me? Thanks.

Shanda J. McClain
Attorney 4-Excise

Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Shanda McClain
Sent: Thursday, July 26, 2018 11:24 AM
To: justin.carroll@ks.gov
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Justin,

I need you to update the vapor products and electronic cigarettes information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Below are the emails containing the information that you provided. Thanks for your assistance.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Shanda McClain
Sent: Wednesday, August 29, 2018 9:54 AM
To: Porsha Vallo
Subject: FW: Request for Information Vapor Products and Electronic Cigarettes
Attachments: Fiscal Yr Vapor Products Tax Collections.xlsx

Porsha,

Below is the email from North Carolina.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
225-219-2759 Fax

From: Alexander J Milak <Al.Milak@ncdor.gov>
Sent: Friday, August 24, 2018 9:08 AM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Cc: John D. Panza <John.Panza@ncdor.gov>
Subject: RE: Request for Information Vapor Products and Electronic Cigarettes

Shanda,

Here is the updated figures.

Thanks,

Al

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Thursday, August 23, 2018 3:37 PM
To: Alexander J Milak <Al.Milak@ncdor.gov>
Cc: John D. Panza <John.Panza@ncdor.gov>
Subject: RE: Request for Information Vapor Products and Electronic Cigarettes

Al and John,

Can one of you provide updated collection figures for vapor products and electronic cigarettes? I need to provide an update by August 30th. Thanks.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
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From: Shanda McClain
Sent: Thursday, July 26, 2018 11:32 AM
To: Alexander J Milak (Al.Milak@ncdor.gov) <Al.Milak@ncdor.gov>
Subject: Request for Information Vapor Products and Electronic Cigarettes

Al,

I need you to update the vapor products and electronic cigarettes collection information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Based on the discussion at the FTA Tobacco Meeting in Prattville, Alabama I know that the rest of the information contained in the report has not changed. Please update the information by August 17th.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
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Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
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Alyssa Johnson

From: Shanda McClain
Sent: Wednesday, August 29, 2018 10:02 AM
To: Porsha Vallo
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Porsha,

Below is the email from Minnesota.

Shanda J. McClain
Attorney 4-Excise
Board Certified Tax Law Specialist
Certified by the Louisiana Board of Legal Specialization
Policy Services Division
Louisiana Department of Revenue
Post Office Box 44098
Baton Rouge, Louisiana 70804-4098
225-219-2780
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From: Hevern, Alex (MDOR) <alex.hevern@state.mn.us>
Sent: Monday, July 30, 2018 10:12 AM
To: Shanda McClain <Shanda.McClain@LA.GOV>; Walker, Curtis (MDOR) <curtis.walker@state.mn.us>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Shanda,

The information we provided last October is still current, there were no tobacco-related law changes this year. The enforcement challenges described below haven't changed either.

A full year of information for FY18 collections isn't available yet. I should note that the revenues mentioned below are estimates not actuals, vapor products are part of our Other Tobacco Products tax and we don't have a way to exactly separate out what is vapor and what isn't. The best we can do is estimate an amount.

Thanks,

Alex Hevern, Research Analysis Specialist
Tax Research Division

Minnesota Department of Revenue
Office: 651-556-6130
www.revenue.state.mn.us

DEPARTMENT OF REVENUE

Working together to fund Minnesota's future.

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Thursday, July 26, 2018 11:36 AM
To: Walker, Curtis (MDOR) <curtis.walker@state.mn.us>
Cc: Hevern, Alex (MDOR) <alex.hevern@state.mn.us>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Curtis,

I need you to update the vapor products and electronic cigarettes information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Below are the emails containing the information that you provided. Thanks for your assistance.

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From: Shanda McClain
Sent: Wednesday, August 29, 2018 10:01 AM
To: Porsha Vallo
Subject: FW: [Research] Request for Information Vapor Products and Electronic Cigarettes

Porsha,

Below is the email from Pennsylvania.

Shanda J. McClain
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From: Bauer, Elizabeth <elbauer@pa.gov>
Sent: Monday, August 13, 2018 1:52 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Shanda,

E-Cigarette collections are below ($millions):

17-Jan	4.7

17-Feb	1.4
17-Mar	0.9
17-Apr	1.9
17-May	1.5
17-Jun	1.6
17-Jul	1.7
17-Aug	1.6
17-Sep	1.7
17-Oct	1.8
17-Nov	2.1
17-Dec	2.2
18-Jan	1.9
18-Feb	2.3
18-Mar	2.2
18-Apr	2.7
18-May	2.6
18-Jun	2.9

A court case decided in June (East Coast Vapor v. Pennsylvania Department of Revenue) determined that separately packaged component parts of e-cigarettes cannot be taxed under PA's Tobacco Products Tax Act. However, the court also ruled that it is not unconstitutional for Pennsylvania to tax electronic cigarettes and e-liquid as "tobacco products" even if they do not deliver tobacco. The department is still considering the revenue loss from separately packaged component parts. Otherwise, there have been no statutory changes to our e-cigarette tax.

Please let me know if you have any questions.

Elizabeth S. Bauer | RFA Manager
PA Department of Revenue | Bureau of Research
1147 Strawberry Square | Harrisburg, PA 17128
Phone: 717.783.9573 | Fax: 717.787.6738
www.revenue.state.pa.us

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Thursday, July 26, 2018 12:45 PM
To: Bauer, Elizabeth <elbauer@pa.gov>
Subject: RE: [Research] Request for Information Vapor Products and Electronic Cigarettes

Elizabeth,

I need you to update the vapor products and electronic cigarettes information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Below are the emails containing the information that you provided. Thanks for your assistance.

Shanda J. McClain
Attorney 4-Excise

Alyssa Johnson

From: Shanda McClain
Sent: Wednesday, August 29, 2018 9:53 AM
To: Porsha Vallo
Subject: FW: West Virginia Vapor Products and Electronic Cigarettes Information

Porsha,

Below is the email from West Virginia.

Shanda J. McClain
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Confidentlality Statement

INFORMAL ADVICE

This communication constitutes "informal advice" from the Policy Services Division of the Louisiana Department of Revenue as contemplated by LAC 61:III.101 and is not binding on the Department of Revenue or the person seeking the advice.

From: Stiles, Mary K <Mary.K.Stiles@wv.gov>
Sent: Friday, August 24, 2018 10:49 AM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Subject: RE: West Virginia Vapor Products and Electronic Cigarettes Information

Shanda,

The statute and tax rate have not changed. Our system shows an e-cigarettes liquid tax collection of $2,552,892.80 since July 1, 2016.

Our biggest challenge now is system read accuracy of paper reports. I run a report, and if I notice large differences in taxes due from previous months, I verify the amounts entered on the paper reports and correct the accounts. I run a new report, which shows an accurate collection.

If you require further information, please contact me. Have a wonderful weekend!

-Mary K.

From: Shanda McClain <Shanda.McClain@LA.GOV>
Sent: Thursday, August 23, 2018 3:47 PM
To: Stiles, Mary K <Mary.K.Stiles@wv.gov>
Subject: RE: West Virginia Vapor Products and Electronic Cigarettes Information

Mary,

Can you provide an update on the vapor products and electronic cigarettes information requested below? I need to provide an update by August 30th. Thanks.

Shanda J. McClain
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From: Shanda McClain
Sent: Thursday, July 26, 2018 11:48 AM

To: 'Stiles, Mary K' <Mary.K.Stiles@wv.gov>
Subject: RE: West Virginia Vapor Products and Electronic Cigarettes Information

Mary,

I need you to update the vapor products and electronic cigarettes information that you provided last October. The information was included in the Health Impacts and Taxation of Electronic Cigarettes House Resolution 155 Report. The Louisiana House of Representatives has requested the we update the information contained in the report. Please update the information by August 17th. Below is the email containing the information that you provided. Thanks for your assistance.

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From: Stiles, Mary K <Mary.K.Stiles@wv.gov>
Sent: Monday, October 30, 2017 1:22 PM
To: Shanda McClain <Shanda.McClain@LA.GOV>
Subject: RE: West Virginia Vapor Products and Electronic Cigarettes Information

Shanda,

WV Code §11-17-4b is a new section, electronic cigarette is $0.075 per milliliter of liquid, regardless of content, which covers liquids, of the Tobacco Products Excise Tax Act. This excise tax responsible for this tax, but retailers and individuals assume the responsibility when applicable. Wholesalers are start date of the new tax was July 1, 2016. WV has collected approximately $1,601,000 since inception. The effective

Kansas' E-cigarette Tax Collections from February 2017 to June 2018

Collection Period	Total Gross Collections
Feb-17	$15,912.86
Mar-17	$57,200.38
Apr-17	$26,610.29
May-17	$49,977.77
Jun-17	$41,391.90
Jul-17	$29,399.15
Aug-17	$54,567.48
Sep-17	$54,278.15
Oct- 17	$121,818.69
Nov-17	$146,881.94
Dec-17	$134,251.56
Jan-18	$117,052.68
Feb-18	$150,282.53
Mar-18	$143,530.99
Apr-18	$142,139.77
May-18	$147,174.55
Jun-18	$256,591.62
Totals	$1,692,062.31

North Carolina E-cigarette Tax Collections from July 2015 to June 2018

July 2015	$99,187.54
August 2015	$252,620.80
September 2015	$186,907.51
October 2015	$239,531.06
November 2015	$282,502.39
December 2015	$294,151.87
January 2016	$227,368.35
February 2016	$276,521.45
March 2016	$286,907.62

April 2016	$218,915.08
May 2016	$346,129.65
June 2016	$242,149.97
July 2016	$273,901.81
August 2016	$278,102.48
September 2016	$282,401.54
October 2016	$297,081.90
November 2016	$266,945.79
December 2016	$191,375.30
January 2017	$408,117.79
February 2017	$364,425.48
March 2017	$341,327.32
April 2017	$264,527.05
May 2017	$390,316.56
June 2017	$334,367.29
July 2017	$378,902.83
August 2017	$293,244.03
September 2017	$413,013.49
October 2017	$255,824.27
November 2017	$383,972.90
December 2017	$346,212.20
January 2018	$364,486.58
February 2018	$358,639.93
March 2018	$552,121.62
April 2018	$209,281.65
May 2018	$575,747.39

June 2018	$386,335.68
Total	**$11,622,758.09**

Pennsylvania E-cigarette Tax Collections from February 2017 to June 2018

January 2017*	$4,700,000.00
February 2017	$1,400,000.00
March 2017	$900,000.00
April 2017	$1,900,000.00
May 2017	$1,500,000.00
June 2017	$1,600,000.00
July 2017	$1,700,000.00
August 2017	$1,600,000.00
September 2017	$1,700,000.00
October 2017	$1,800,000.00
November 2017	$2,100,000.00
December 2017	$2,200,000.00
January 2018	$1,900,000.00
February 2018	$2,300,000.00
March 2018	$2,200,000.00
April 2018	$2,700,000.00
May 2018	$2,600,000.00
June 2018	$2,900,000.00
Total	**$37,700,000**

Louisiana E-cigarette Tax Collections from August 2015 to June 2018

Collection Period	Wholesale Dealers Vapor Tax	Retail Dealers Vapor Tax	Total Gross Collections
Aug-15	$249.68		$249.68
Sep-15	$30,808.89	$5,058.30	$35,867.19
Oct-15	$29,378.02	$28,593.91	$57,971.93
Nov-15	$25,200.82	$50,204.59	$75,405.41
Dec-15	$13,228.38	$56,849.44	$70,077.82
Jan-16	$16,781.45	$66,761.92	$83,543.37
Feb-16	$18,984.54	$61,569.04	$80,553.58
Mar-16	$9,758.35	$36,748.44	$46,506.79
Apr-16	$19,651.82	$47,030.01	$66,681.83
May-16	$18,375.45	$51,279.91	$69,655.36
Jun-16	$17,831.74	$100,051.94	$117,883.68
Jul-16	$18,565.21	$53,246.44	$71,811.65
Aug-16	$14,816.45	$72,180.37	$86,996.82
Sep-16	$16,485.05	$55,776.19	$72,261.24
Oct-16	$23,424.63	$57,662.27	$81,086.90
Nov-16	$13,930.16	$50,780.85	$64,711.01
Dec-16	$17,867.23	$48,916.00	$66,783.23
Jan-17	$15,036.88	$57,766.44	$72,803.32
Feb-17	$13,153.05	$33,666.32	$46,819.37
Mar-17	$11,746.21	$63,357.19	$75,103.40
Apr-17	$20,071.44	$34,870.38	$54,941.82
May-17	$16,602.67	$80,986.15	$97,588.82
Jun-17	$17,054.71	$66,076.31	$83,131.02
Jul-17	$17,625.95	$52,951.57	$70,577.52
Aug-17	$17,878.87	$73,875.65	$91,754.52
Sep-17	$13,651.52	$79,679.33	$93,330.85
Oct- 17	$13,877.29	$63,329.52	$77,206.81
Nov-17	$16,243.96	$81,200.37	$97,444.33
Dec-17	$19,299.41	$40,468.22	$59,767.63
Jan-18	$15,810.60	$111,054.18	$126,864.78

Feb-18	$19,172.11	$72,160.45	$91,332.56
Mar-18	$29,589.42	$74,326.46	$103,915.88
Apr-18	$23,323.22	$41,734.70	$65,057.92
May-18	$26,381.45	$135,348.97	$161,730.42
Jun-18	$29,749.80	$89,479.07	$119,228.87
Totals	**$641,606.40**	**$2,095,040.90**	**$2,736,647.30**

Louisiana Department of Health
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