# **E-cigarette Taxation in Utah** A description of options

White Paper

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# Executive Summary

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Electronic-cigarette products (e-cigarettes, e-liquids, etc.) are a new and relatively unregulated product. While there is potential for e-cigarettes to be used as a less harmful alternative to traditional tobacco cigarettes and to help with cessation, there is little long-term data to validate this. However, recent Utah trend data has caused concern among many who work in public health. The e-cigarette use rate among Utah teens is now over 10 percent<sup>1</sup> and the Utah Poison Control Center received over 130 calls for child ecigarette exposures last year<sup>2</sup>. The damaging effect of nicotine on the developing brain is well established<sup>3</sup>. Recent studies have shown that there is a greater likelihood of using traditional tobacco products if e-cigarettes are used during vouth<sup>4,5,6</sup>. Given the potentially harmful and addictive nature of this product the state Tobacco Prevention and Control Program (TPCP) advise that state policy makers look to limit youth access to e-cigarettes.

Imposing a tax on e-cigarette products is one strategy that could be used to accomplish this. It is expected that increasing the price of these products will dissuade a portion of youth use, since they are disproportionately affected by this price increase because of their lower purchasing power.

TPCP knows this strategy has worked with traditional tobacco products<sup>7,8</sup>. It is our hope that this same effect would be seen with a tax on e-cigarette products.

The research group RTI conducted a study that estimates the impact that various levels of increase in the price of e-cigarette products would have on decreasing youth use and increasing state revenue<sup>9</sup>. By using the natural variation in product price and sale RTI estimates that:

- a 10 percent increase in product price may result in a 0.8 to 9.1 percent decrease in youth use;
- a 10 percent increase in product price may result in an additional \$242,845 to \$274,422 in state revenue.

States have only recently begun to tax e-cigarette products. Though each state has taken different approaches and rates, three general strategies have emerged.

- a tax based on the amount of nicotine in the product;
- a fixed tax per milliliter of usable liquid product; or
- an ad valorem tax on all e-cigarette products.

Our recommendation is to tax all e-cigarette products because this strategy would likely have the greatest effect on the youth use rate. It also has the potential for generating the most revenue. However, TPCP encourages policymakers to carefully consider:

- the definition of the taxable product and which items will be included under the tax;
- at what point in the distribution chain will the tax be collected, and how;
- select a tax rate that maximizes the potential health benefits and additional tax revenue, and increase the tax on traditional tobacco; and
- how capacity can be increased to ensure tax compliance.

Interested parties at the Utah Department of Health, the attorneys general office, and the state tax commission are available to help in this process.

#### **Key Points:**

- Utah has seen a rapid increase in e-cigarette use among youth. The state has included e-cigarettes in all tobacco laws except taxation;
- UDOH contracted with RTI international to study the effect of e-cigarette taxation on use and state revenue;
- A description of the various factors that go into developing an e-cigarette tax policy; and
- An informal evaluation of tax policy options.

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# Introduction

Electronic-cigarettes (e-cigarettes) are a relatively new product in the United States. These devices were first developed in China by small specialty manufacturers and it wasn't until investments by larger international tobacco companies that the sales began to rise on a global scale<sup>10</sup>.

Advances in technology and consumer choice have accompanied the popularity of e-cigarettes. The first generation e-cigarettes (known as cigalikes) look similar to traditional cigarettes. These first generation products are very simple; consisting of a battery, a compartment for the liquid product (e-liquid/e-juice), and an atomizer to aerosolize the liquid for inhalation. Depending on the brand, new liquid could be added by purchasing a new e-liquid cartridge or disposing of the entire device and purchasing a new one. From the cigalikes, tank systems were developed. Considered a second generation product, tank systems have the advantage of not having to buy new cartridges or new devices, since they can be refilled with the user's preferred e-liquid. Third generation mods came with improved atomizers that allowed for user alteration. Accompanying the changes in devices was an increased variety in e-liquid flavors<sup>11</sup>.

The major selling point of e-cigarettes is that they are a nicotine delivery system that does not involve the combustion of tobacco<sup>12</sup>. As such the devices do not produce smoke and tar like traditional tobacco products (i.e., cigarettes, cigars, etc.)<sup>12</sup>.

# Background

Controversy has surrounded the safety of e-cigarette products. Proponents of the technology claim that ecigarettes are a safer alternative to traditional combustible tobacco products that can help those who smoke tobacco quit. However, the opinions of those in the medical and public health professions range from cautious to very concerned.

What is known is that e-cigarettes do not combust tobacco and thus the user does not inhale smoke and tar. This has led many to believe that they are a safer product. However, ecigarettes are a relatively new product. The majority contain nicotine, which is an addictive and harmful substance, and other ingredients that have been shown to have either unknown or negative health effects<sup>12</sup>. Also, not all ecigarette products are created equal. E-cigarette products are not regulated at the federal level and research has shown that ingredients vary from those stated on the label<sup>13</sup>. Research has not been able to show that use of e-cigarettes is a viable alternative to other tobacco cessation methods<sup>14</sup>.

The greatest concern of those in the medical and public health communities is the potential effect e-cigarettes may have on younger people. It has been shown that nicotine is harmful to the developing brain and can cause lifelong damage3. Also, recent studies have shown that teens and young adults who use e-cigarettes are more likely to move on to use traditional tobacco products<sup>4,5,6</sup>. More research is needed to better understand e-cigarette products and their effects.

E-cigarettes also affect non-users. As mentioned, nicotine is a potential toxin that can cause great harm even in small amounts. Poison control calls regarding exposure to the liquids of e-cigarettes have increased in Utah and across the nation. According to the latest data there were 131 poison control calls in Utah during this year due to nicotine exposures from e-cigarettes<sup>2</sup>. The majority of these calls were on behalf of children, who because of their small body sizes and lack of understanding are more likely to orally consume liquid nicotine resulting harmful consequences. In many of the e-liquid products there is a potentially lethal dose of nicotine. The fact that e-liquid products are available in a variety of candy or fruit flavors with attractive packaging potentially increases the risk for children to be exposed.

TPCP contracted with RTI, a non-profit research group from North Carolina, to estimate the possible impact of increased prices of e-cigarette products on youth use rates<sup>9</sup>. Since only one published study had examined the effects of e-cigarette price increases on youth use<sup>16</sup>, RTI used the estimated relationship between smoking and the price of cigarettes in conjunction with Huang's study to develop six different price elasticity scenarios that range from low end estimates developed for adults to high end estimates resulting from Huang's study on the effects of an e-cigarette price increase on youth. Furthermore, RTI analyzed potential budgetary implications of e-cigarette taxation in Utah. To do this, RTI used e-cigarette retail scanner data from Utah convenience, food, drug, and mass merchandise stores to estimate expected government revenues resulting from e-cigarette taxes.

# **Effect on Youth Use Rates**

TPCP is interested in limiting the recent increase in youth use of e-cigarette products, for the reasons previously discussed. It is a well-established theory that consumer behavior is affected by the price of cigarettes. Because of lower personal resources, youth are much more sensitive to changes in cigarette price. Huang, et al.<sup>16</sup> has shown that the same relationship exists between the price of e-cigarette products and the rate they are used by youth.

In their study, RTI found that for every 10 percent increase in e-cigarette price, there may be a 0.8 percent to 9.1 percent decrease in the youth use rate. The range in estimates reflects the extremes in the investigated scenarios. A 0.8 percent decrease is the most conservative estimate based on studies performed using adults, who are much less sensitive to price increases than children. The 9.1 percent estimate is based on the established study that investigates the relationship between e-cigarette price and youth use. The actual effects of a price increase will most likely fall somewhere between these two estimates.

### **Revenue Generation**

Taxing e-cigarette products will also produce revenue for the state. However, this begs the question of how much revenue would actually be generated in Utah. Since other states have only just begun to tax these products there is little data to predict how much revenue a specific tax strategy will generate. RTI has used retail scanner data to create four model scenarios that estimate the amount of revenue generated from a percent increase in price (through taxation).

In three of the four model scenarios there was a linear relationship between the percent increase in price through tax and the amount of potential revenue. In these three scenarios, a ten percent increase in price can generate between \$265,089 and \$274,422 during one year of implementation. If there was a 100 percent increase in price the models predict that revenue could reach between \$2,545,467 and \$4,242,450.

In one of the scenarios (scenario 4) the model predicted that revenue would be limited at a 40-50 percent increase in price (correlates to between \$670,088 and \$684,325 in revenue). Past this point the model predicts that revenue would fall, presumably because the price would discourage sales. However, scenario 4 is based on the estimates of one study. RTI is more confident in estimates of the other scenarios. Furthermore, studies on tobacco taxes have shown that tax increases will increase revenue in the short and long term<sup>15</sup>. Declines in tobacco tax revenue often come as a result of inflation or other tobacco control activities<sup>15</sup>. E-cigarettes are addictive, harmful, and are growing in popularity among Utah youth, which warrants government action. Taxation could reduce e-cigarette use among youth while generating revenue for the state. Taxes on tobacco have been shown to do this<sup>7,8</sup>. This effect, called price elasticity sensitivity, is especially pronounced among youth due to their decreased financial resources.

Preliminary research has shown that similar price sensitivity exists for e-cigarette products. A study by Huang, et al. in a 2014 article of Tobacco Control examined the price sensitivity of e-cigarettes products by looking at natural fluctuations in price and sales16. They found that a 10 percent increase in price resulted in a sales decrease of 12 percent for disposable devices and 19 percent for reusable devices. However, they also found that if the price increased only for reusable devices then the sale of disposable devices would increase<sup>16</sup>.

Location	Strategy	Rate			
Chicago	Flat amount	55 cents/mL and			
		\$0.80/ device			
Cook County,	Flat amount	20cents/mL			
Illinois					
District of	Percent of	67 percent			
Columbia	wholesale on all				
	products				
Kansas	Flat amount	20 cents/mL			
Louisiana	Flat amount	5 cents/mL			
Matanuska	Percent wholesale	55 percent			
Susitna, Alaska	on all products				
Minnesota	Percent wholesale	95 percent			
	on select products				
Montgomery	Percent of	20 percent			
County, Maryland	wholesale on all				
	products				
North Carolina	Flat amount	5 cents/mL			
Pennsylvania	Percent of	40 percent			
	wholesale on all				
	products				
West Virginia	Flat amount	7.5 cents/mL			

#### Current State Tax Strategies (as of Jul. 2016)

States and local areas have begun to tax e-cigarettes using various taxation strategies. The Tobacco Control Legal

Consortium has categorized state action into three taxation strategies<sup>17</sup>. These consist of a tax on:

- the amount of nicotine in the product;
- the amount, in milliliters, of usable liquid product; and
- all e-cigarette products.

Each of these strategies, and other potential options, will be described below.

# Amount of Nicotine in the Liquid

Nicotine is the addictive ingredient in the liquid. The amount of nicotine in the liquid is typically described in either milligrams per milliliter, or as a percent of the liquid. There has not been a tax on the milligram amount of nicotine in a product but rather the tax has been applied to the amount of milliliters that contain nicotine. As such, nicotine free products would not be taxed.

# Amount of Usable Liquid Product

Though nicotine is the principle ingredient of the liquid, it is only one part of a mixture of other chemicals. It is also the case that certain liquids are advertised as being nicotine free. E-liquid can either be sealed by the manufacturer inside of the device or sold as a separate product to be added to the device by the user. E-liquid sold by itself comes in containers of 10 mL, 15mL, 30mL, and higher. The tax has been applied in other states as a dollar amount per the amount of milliliters sold. For example, in North Carolina 10 mL bottle has a tax of \$0.50 and a 15 mL would have a tax of \$0.55 added onto the price.

### **Tax on Devices**

Some states have implemented a "catch all" approach to taxation by applying an ad valorem tax to all e-cigarette products. One rationale to this approach is to more easily incorporate the e-cigarette tax into the state's current tobacco tax strategy.

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# **Level of Taxation**

States have also experimented with how an e-cigarette tax would be calculated for an individual product. Two methods are most commonly used; a) an ad valorem tax on the wholesale value of the product, or b) a flat amount tax per device and/or milliliter. An ad valorem tax likely favors disposable products as their wholesale value is smaller than those of the reusable devices. Conversely, a flat-amount tax would favor reusable devices as the percent price increase would be smaller compared to the disposable products.

### **Tax Commission**

#### Feasibility

The e-cigarette industry is in its infancy and rapidly changing. Therefore in designing language for taxing the product the writer must be clear as to what exactly they are wanting to tax. It would be easy to simply state that all electroniccigarette products would be taxed. However, there are parts of electronic-cigarettes that are not exclusive to the device. For instance, many electronic-cigarettes use disposable and rechargeable batteries, battery chargers, and USB ports and drives. It would be inappropriate for non-exclusive products like these to fall under a tax on electronic-cigarettes.

The Tobacco Legal Consortium has provided an example of tax language that would exclude these products that are associated with electronic cigarettes<sup>17</sup>. In short that language;

- clearly states what constitutes an electronic-cigarette product;
- specifically excludes batteries, battery chargers, and charging cords from the tax; and
- would include batteries, chargers, and charging cords if they are sold together with an electronic cigarette product if they are packaged together as one saleable item<sup>17</sup>.

The distribution chains of tobacco products are well defined; manufacturers sell to distributers who sell to retailers who sell to consumers. The distribution chain of the electronic-cigarette industry is not so defined. Manufacturers, distributors, and retailers are not mutually exclusive entities and as such it may be difficult to identify at what point a tax should be paid and then which businesses fall into that category.

The current Utah tax method for "other tobacco products" may be useful in resolving this issue. The Utah code currently states that the person who causes the product to be made or brought into the state is responsible for disclosing this to the Utah Tax Commission and paying the necessary tax on a quarterly tax return<sup>25</sup>. Agents from the Utah Tax Commission have authority to audit such businesses to ensure that they are honest in their disclosures. However, it must be said that the inclusion of e-cigarettes as a taxable item is likely to place a burden on the tax commission that is already spread thin with identifying and auditing potential defrauders. Without resources to enforce individuals will easily be able to sell these products without paying the tax.

An alternative to this approach is to apply the tax through the sales tax system. The sales tax is applied at the point of sale and is recorded by the retailer's scanner system. Because the sales are recorded electronically, it is likely that the retailer would be more likely to report their sales and taxes due to the state tax commission. However, as the tax is applied at the point of sale the consumer would experience a potentially large price increase at checkout compared to the stated sticker price. Such an increase may be unpalatable to the consumer.

### **Health Advocates**

#### Addiction

In 2010 the Surgeon General's report described nicotine's addictiveness as comparable to cocaine and heroin<sup>26</sup>. As such, e-cigarettes containing nicotine represent a potential market failure; the consumer's ability to act in their own self-interest is distorted by the addictive substance. There is precedent for government to control addictive substances through tax. Traditional tobacco, alcohol, and in certain states Marijuana has been taxed to discourage use.

Nicotine addiction is not harmless. Noted associations include: acute toxicity; decreased body weight; insulin resistance; cancer (of the lung, intestine, pancreas, and breast) ; increased heart rate and blood pressure; promotion of atherosclerosis; bronchoconstriction; apnea; GERD; peptic ulcers; weakened immune function; erectile dysfunction; impaired female fertility; and lower birth weight in newborns<sup>27</sup>. Nicotine replacement therapy is recommended for tobacco cessation. However, because nicotine is addictive and harmful it should be utilized under the supervision of a trained cessation professional and in a form that has been through the proper drug testing protocol. Since the nicotine in electronic cigarettes is neither FDA tested/approved nor administered by physicians, steps should be taken to reduce recreational use in the general population.

If the argument is being made that the tax would help decrease addictive behaviors, are there grounds to include nicotine-free products on the tax as they do not contain the addictive substance? There is evidence that suggests that a) even products marketed as nicotine-free often still contain small amounts of nicotine and b) other constituents of ecigarette vapor are harmful to health. As such it is desirable to decrease the vaping of even nicotine-free products.

If nicotine-free products were to be excluded from the tax they would be comparably less expensive than other vapor products. This may encourage adult users to move to zeronicotine products and help them to towards vaping cessation. However, cheaper nicotine-free products may encourage youth use and serve as a stepping stone to nicotine based products in the future.

#### Youth Use

Since 2011 the rate of youth tobacco smoking has decreased by nearly 35 percent<sup>28</sup>. However, over the same period, ecigarette use has increased fivefold<sup>28</sup> and, in 2015, 10.5 percent of Utah students reported that they had used ecigarettes in the last 30 days<sup>1</sup>. This is a worrying trend for health advocates. It has been shown that nicotine is harmful to the developing brain and can cause lifelong damage<sup>3</sup>. Also, recent studies have shown that teens and young adults who use e-cigarettes are more likely to move on to use traditional tobacco products<sup>4,5,6</sup>. Though more research is needed to better understand the long-term effects of ecigarette product use, there is enough information to warrant an increase in efforts to limit youth consumption.

#### **Unintended Consequences**

Care must be taken to avoid unequal taxation across the different e-cigarette products. Certain taxation strategies may increase the price of one type of e-cigarette device over another. The result of using such a strategy could be that users simply switch to a device that has a lower tax. This kind of switching would weaken the impact of the tax. An ad valorem tax would likely favor disposable products as their wholesale value is smaller than those of the reusable devices. Conversely, a fixed tax would favor reusable devices as the percent price increase would be smaller compared to the disposable products.

Also, a new tax on electronic-cigarette products would decrease the price difference between electronic-cigarettes and tobacco cigarettes and may encourage current users of e-cigarettes to switch to traditional tobacco products.

### **State Government**

#### **Potential to Generate Revenue**

A tax on e-cigarettes is an opportunity for consistency in the code and to offset falling revenues from other sources. An important consideration for generating revenue is a) will the tax be ad valorem or at a fixed amount, and b) at what rate or amount?

An ad valorem tax is determined by a percentage of the wholesale value of the product whereas with a fixed tax strategy a set dollar amount is applied per taxable unit (e.g. product). The difference in these strategies is stark and has the potential to significantly affect revenue generation. TPCP assumes that an ad valorem tax would increase the price, and therefore revenue, at a higher rate than a fixed tax.

#### **Political Palatability**

In general, Utah is averse to taxation. Proper framing of an ecigarette tax would be needed to make such a policy more likely to succeed in the legislature. E-cigarettes in the state code have already been designated as tobacco products in almost all areas except under taxation. An argument can be made that an e-cigarette tax would not be a new tax but an extension of the "other tobacco" tax for a new tobacco product. If this argument were to be used, using an ad valorem tax strategy would be the most appropriate.

However, the part of nicotine-free products then comes into question. If the one of the premises of the tax is that ecigarettes are a tobacco product, would including nicotinefree products under the tax potentially could weaken the argument of the policy.

# **Vaping Community**

### **Protection of Small Business**

Many in the vaping community share the same concern as health advocates; that an increase in the price of e-cigarette

products would encourage users to switch to traditional tobacco. Furthermore, there are concerns that an increased price may drive down consumption to the point where small businesses would lose significant profits and would have to close.

# **Evaluating Options**

TPCP evaluated the strategies mentioned above using the following criteria:

- effect on youth use rate;
- effect on addictive behavior;
- feasibility;
- revenue generation;
- limit switching between e-cigarette products and to traditional tobacco;
- small business protection; and
- political palatability.

The criteria vary in the contribution to public good. TPCP weighted each criterion based on the potential they have to benefit society; one meaning less benefit and three meaning more benefit.

#### **Criteria Weights**

Criterion	Weight
Decrease Youth Use	3
Decrease Addiction	3
Feasibility to	2
Implement	
<b>Revenue Generation</b>	1
Limit Switching	3
Protect Small	1
Business	
Political Palatibility	2

Next, the team described the relationship between the strategy and the criteria on a scale from one to five with one being very unlikely and five being highly likely. The weight is then applied and each criterion added to give a total score. The higher the score the more likely, in our estimation, that strategy will benefit society. TPCP also added a row that describes whether an ad valorem or a fixed tax is the most feasible for each strategy.

# **Amount of Nicotine in the Product**

Nicotine is the addictive ingredient in e-cigarette products, and thus a tax based on nicotine would theoretically discourage the use of the potentially more harmful high nicotine content product. Also this strategy may limit switching between e-cigarette products, but not with traditional tobacco because the price difference would be lessened. Politically therefore, a tax on nicotine, the addictive substance, may be perceived as the most palatable. However, a recent study has shown that a large proportion of adolescents start using e-cigarettes because of the flavors rather than the nicotine content<sup>29</sup>. Therefore a tax on nicotine may discourage current use but not initiation. Also, a tax solely on the nicotine content would be difficult to enforce. Research has shown that the actual nicotine content of e-cigarette products can vary significantly from the stated amount on the container<sup>13</sup>. This may be due to inaccurate manufacturing or, as mentioned by industry representatives, because of the breakdown of the nicotine as it is exposed to heat and/or sunlight. As such, it would be difficult to place a tax on the amount of nicotine when the actual amount of that ingredient may be unknown. This strategy is likely to generate the least amount of revenue to the state, but probably have the least effect on business.

# **Amount of Nicotine in the Product**

A tax on the liquid amount of usable product (in milliliters) would be easier to enforce than a tax on nicotine but still presents problems. The true amount of liquid is more readily known and is more stable than the nicotine content. However, if sellers were to comply with a tax on liquid they would have to modify their reporting practices so that they could list the total amount of usable product in mL on their tax return. It is not known at this time how easily this could be accomplished. This strategy would likely discourage the excess use of these products. However, as e-liquid can be readily manufactured by an individual, a tax could be easily avoided. Adolescents may be less likely to manufacture the liquid (because of the high initial cost) and thus may be more affected by the tax.

This tax strategy would be equally applied across devices but may not limit switching to traditional tobacco. As such this could have a higher effect on business. A tax on e-liquid is best suited to a fixed tax per mL, which would likely generate less revenue.

Across the country, a tax on the milliliter amount of usable product is the most popular strategy. This may be seen as favorable politically as Utah would not be too outside the norm. However, if this tax strategy were to be employed effectively, TPCP recommends a higher tax rate than those that have been set by other states.

### **Tax on Devices**

A tax on completed e-cigarette devices would be easier for sellers to report and for the tax commission to enforce. However, this would be more complicated if the tax was also applied to the individual parts of an e-cigarette; in such case the taxable product should be carefully defined. According to the study by RTI<sup>9</sup> and the published paper by Huang, et al., an increase in the price of e-cigarette products would have a measurable effect on the youth use rate and generate revenue. It is likely that this relationship is linear and thus a higher tax would produce a higher effect. However, as devices are bought less frequently than the e-liquid, it may be the case that a tax on devices would have little effect on those already using the product.

It is likely that a tax solely on devices would encourage product switching. As discussed, an ad valorem tax would favor disposable devices whereas a fixed tax would favor reusable products. Likewise, depending on how the tax is applied it may favor one type of retailer over another as vape shops generally sell reusable products and convenience stores typically sell disposables. Switching could be limited though if the tax was applied differently across the various products. For example, a larger ad valorem tax could be placed on disposable products, because of their comparably lower wholesale value, to offset the price increase between disposables and reusables. However, the right tax rate would have to be determined to see this effect. Also, to exclude the usable product from the tax would weaken the political argument that the tax would be used to decrease addictive behaviors.

# Tax on Devices and Liquid Usable Product

This comprehensive approach draws upon the strengths, and weaknesses, of the other strategies. Such a tax would discourage e-cigarette use by current users as well as by youth. However, enforcement of this strategy would require a careful definition of what is taxable and what is not. Also, an all-products tax may increase the likelihood that individuals will make their own devices and liquid product, or buy their products online where it is easy to avoid state taxes. However, a tax on all electronic-cigarette products would theoretically be the most successful in generating revenue. On the other hand, it would probably also have the largest negative effects on small business.

Another advantage to this approach is that the tax can be applied differently to different products. For instance, a fixed tax could be applied to e-liquids and an ad valorem tax to devices. The right mixed application could help to maintain equality of tax across products and therefore increase its political palatability. However, if politics were to be focused on, legislation would likely be most successful if the ad valorem "other tobacco" rate were applied to both the liquid and the devices.

The weakness of this and each of the other strategies is that they would do little to stop individuals from switching to traditional tobacco products. However, this unintended consequence could be reduced by also increasing the tax on other tobacco products. This approach would maintain the price difference between e-cigarettes and traditional tobacco and the incentive to switch to a potentially less harmful product. Maintaining the price difference would also help to protect small businesses that rely mostly on ecigarette sales.

### Tax strategy decision matrix

	Weight	Nicotine		mL of Liquid		Devices		All products	
		Rate	x weight	Rate	x weight	Rate	x weight	Rate	x weight
Decrease Youth Use	3	3	9	4	12	5	15	5	15
Decrease Addiction	3	5	15	4	12	3	9	5	15
Feasibility	2	2	4	3	6	4	8	4	8
Revenue generation	1	2	2	3	3	4	4	5	5
Limit Switching	3	4	12	4	12	2	6	2	6
Protect Business	1	4	4	3	3	2	2	1	1
Political Palatability	2	5	10	4	8	2	4	3	6
Total			57		56		48		56
Ad valorem or fixed			Fixed		Fixed	Ad	valorem	1	Aixed

# Conclusion

In this report TPCP attempted to present an overview of ecigarette taxation. This analysis is neither comprehensive nor conclusive but the hope is that it will provide some into a variety of strategies for taxing these products and the potential impact on youth use rates and revenue. The decision matrix identifies that a tax on all e-cigarette products would achieve the best results based on the concerns of stakeholders. However, instead of recommending a specific policy TPCP encourages decision makers to consider the following points in framing ecigarette tax policy:

- carefully define the taxable product to enhance compliance;
- apply a tax to both the vaping device and the usable liquid product;
- define in legislation at what point and how the tax will be collected;
- apply a tax that would equally affect the range of electronic cigarette products, and increase the tax on tobacco cigarettes; and
- consider how capacity at the state tax commission can be increased to match the increased enforcement responsibility.

# Distribution

Versions of this report were distributed to:

- Utah Academy of Family Physicians;
- Utah Tobacco Free Alliance;
- American Heart Association Utah;
- American Cancer Society, Cancer Action Network Utah;
- American Lung Association Utah;
- Utah Local Association of Community Health Education Specialists;

 Rep. Paul Ray, Utah House of Representatives District 13;

- <sup>1</sup> Utah Department of Health. Tobacco prevention and control in Utah: fifteenth annual report, August 2015. http://www.tobaccofreeutah.org/pdfs/tpcpfy15report.pdf.
- <sup>2</sup> Electronic cigarette in Utah. Way to quit website. http://www.tobaccofreeutah.org/pdfs/e-cig%20summary%202015.pdf. Accessed 2016.
- <sup>3</sup> Institutes of Medicine. Public health implications of raising the minimum age of legal access to tobacco products. http://iom.nationalacademies.org/~/media/Files/Report%20Files/2015/TobaccoMinAge/tobacco\_minimum\_age\_report\_brief.pdf. Published March, 2014.
- <sup>4</sup> Primack B, Soneji S, Stoolmiller M, et al. Progression to traditional cigarette smoking after electronic-cigarette use among US adolescents and young adults. *JAMA Pediatr.* 2015;169(11). 1018-1023.
- <sup>5</sup> Kandel E, Kandel D. A molecular basis for nicotine as a gateway drug. *N Engl J Med*. Sept. 2014;371: 932-943.
- <sup>6</sup> Leventhal A, Strong D, Kirkpatrick M, et al. Association of electronic cigarette use with initiation of combustible tobacco product smoking in early adolescence. *JAMA*. 2015;314(7):700-707.
- <sup>7</sup> Bader P, Boisclair D, Ferrence R. Effects of tobacco taxation and pricing on smoking behaviors in high risk populations. A knowledge synthesis. Int J Environ Res Public Health. Nov. 2011; 8(11):4118-4139.
- <sup>8</sup> A Boonn. Raising cigarette taxes reduces smoking, especially among kids (and the cigarette companies know it). Campaign for Tobacco Free Kids. https://www.tobaccofreekids.org/research/factsheets/pdf/0146.pdf. Published October, 2012.
- <sup>9</sup> I Alam, D Gammon, E Crankshaw, J Nonnemaker. Implications of taxation on ENDS: Youth prevalence and government revenues. RTI International. December, 2015.
- <sup>10</sup> Caponnetto P, Campagna D, Papale G, et al. The emerging phenomenon or electronic cigarettes. *Expert Rev Respir Med*. 2012;6(1):63-74.
- <sup>11</sup> The 4 generations of electronic cigarettes. Ecigclopedia website. http://ecigclopedia.com/the-4-generations-of-electronic-cigarettes/. Published August, 2015.
- <sup>12</sup> DrugFacts: Electronic Cigarettes (e-Cigarettes). National Institute of Drug Abuse website. http://www.drugabuse.gov/publications/drugfacts/electroniccigarettes-e-cigarettes.\. Published August, 2015.
- <sup>13</sup> Cheng T. Chemical evaluation of electronic cigarettes. *Tob Control.* 2014;23:ii11-ii17.
- <sup>14</sup> Grana R, Popova L, Ling P. A longitudinal analysis of electronic cigarette use and smoking cessation. *JAMA Intern Med.* 2014;174(5):812-813.
- <sup>15</sup> Chaloupka F, Yurekli A, Fong G. Tobacco taxes as a tobacco control strategy. *Tob Control.* 2012;21:172-180..
- <sup>16</sup> Huang J, Tauras J, Chaloupka F. The impact of price and tobacco control policies on the demand for electronic nicotine delivery systems. *Tob Control* 2014;23:iii41-iii47
- <sup>17</sup> Tobacco Control Legal Consortium. E-cigarette taxation: Frequently asked questions. http://publichealthlawcenter.org/sites/default/files/resources/tclcfs-ecig-taxation-2015.pdf. Published March, 2015.
- <sup>18</sup> Lieberman L. Extras on Excise. D.C. Council approves e-cigarette excise tax, no word yet on upcoming hipster migration. Bloomberg BNA website. http://www.bna.com/extras-excise-dc-b17179935073/. Published August, 2015.
- <sup>19</sup> Barton R. Kentucky Lawmaker proposes e-cigarette tax to discourage 'vaping'. WFPL News wesbite. http://wfpl.org/lawmaker-proposes-e-cigarette-taxto-discourage-vaping/. Published December, 2015.
- <sup>20</sup> Barfield T. Changes to Tobacco Tax Law per Act 94. Louisiana Department of Revenue website. http://revenue.louisiana.gov/LawsPolicies/RIB15-023.pdf. Published June, 2015.
- <sup>21</sup> Hollander Z. Mat-Su Assembly sticks with tax on e-cigarettes. Alaska Dispatch News website. http://www.adn.com/article/20150902/mat-su-assemblysticks-tax-e-cigarettes. Published September, 2015.
- <sup>22</sup> E-cigarettes. Minnesota Revenue website. http://www.revenue.state.mn.us/businesses/tobacco/Pages/e-Cig.aspx. N.d.
- <sup>23</sup> North Carolina Department of Revenue. Tax on vapor products: Frequently asked questions. http://www.dor.state.nc.us/taxes/excise/evapor\_faq.pdf. Published May, 2015.
- <sup>24</sup> Byrne J. Chicago e-cigarette tax more about kids than money. Chicago Tribune website. http://www.chicagotribune.com/news/local/politics/ct-chicagoelectronic-cigarette-tax-met-0917-20150917-story.html. Published September, 2015.
- <sup>25</sup> Utah State Tax Commission. Tax information for cigarettes, tobacco products and electronic cigarette products. http://tax.utah.gov/forms/pubs/pub-65.pdf. Published May, 2015.
- <sup>26</sup> Centers for Disease Control and Prevention. A report of the Surgeon General: How tobacco smoke causes disease. http://www.cdc.gov/tobacco/data\_statistics/sgr/2010/consumer\_booklet/pdfs/consumer.pdf. Published 2010.
- <sup>27</sup> Mishra A, Chaturvedi P, Datta S, et al. Harmful effects of nicotine. *Indian J Med Paediatr Oncol.* 2015;36(1): 24-31.

#### Utah Tobacco Prevention and Control Program • 877-220-3466

- <sup>28</sup> Utah Department of Health. Nicotine and the developing brain.
  http://www.tobaccofreeutah.org/pdfs/FactSheet\_Nicotine%20and%20the%20Developing%20Brain.pdf. Published February, 2015.
- <sup>19</sup> Monitoring the Future Results. National Institute on Drug Abuse website. http://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future. Published January, 2016