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The importance of product definitions in US e-cigarette laws and regulations

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Abstract

Background—How electronic cigarettes and similar products (e-cigarettes) are defined affects how they are regulated, particularly whether existing laws for cigarettes apply, including sales and marketing, youth access, smoke-free and taxation laws.

Methods—We examined the text of 46 bills that define e-cigarettes enacted in 40 states and characterised how e-cigarettes and similar products were defined.

Results—States enact laws creating new product categories for e-cigarettes separate from the ‘tobacco product’ category (eg, ‘alternative nicotine product,’ ‘vapour product,’ ‘electronic nicotine device’), with four states explicitly excluding e-cigarettes from ‘tobacco products.’ Twenty-eight states do not include e-cigarettes in their definitions of ‘tobacco products’ or ‘smoking,’ eight include e-cigarettes as ‘tobacco products,’ three include e-cigarettes in ‘smoking.’ Sixteen states’ definitions of e-cigarettes require nicotine, and five states pre-empt more stringent local laws. Tobacco and e-cigarette industry representatives tried to shape laws that benefit their interests.

Conclusions—Definitions separating e-cigarettes from other tobacco products are common. Similar to past ‘Trojan horse’ policies, e-cigarette policies that initially appear to restrict sales (eg, limit youth access) may actually undermine regulation if they establish local pre-emption or create definitions that divide e-cigarettes from other tobacco products. Comparable issues are raised by the European Union Tobacco Products Directive and e-cigarette regulations in other countries. Policymakers should carefully draft legislation with definitions of e-cigarettes that broadly define

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the products, do not require nicotine or tobacco, do not pre-empt stronger regulations and explicitly include e-cigarettes in smoke-free and taxation laws.

INTRODUCTION

Electronic cigarettes and similar products (e-cigarettes) are devices that deliver an aerosol by heating a solution typically composed of propylene glycol and/or glycerol (glycerin), nicotine and flavouring agents. How e-cigarettes are defined in laws affects how they are regulated, particularly if they can be included under existing laws that regulate cigarettes, including sales and marketing restrictions, youth access, smoking restrictions and taxation. Creating exceptions for e-cigarettes in smoke-free laws may encourage dual users of e-cigarettes and conventional cigarettes to delay quitting smoking completely. Exempting e-cigarettes from smoke-free laws may expose people to simulated smoking behaviour, thereby undermining efforts to denormalise smoking behaviour, potentially interfering with successful tobacco control efforts.

Varying terms (e-cigarettes, e-hookah, vape-pens, hookah pens and personal vaporizers), combined with the hundreds of types and brands of e-cigarettes and the fact that users modify or build their own products,¹ complicate efforts to craft one universal definition. A 2010 court case found that e-cigarettes could not be regulated under the Food and Drug Administration's (FDA) drugs/devices authority unless they are 'marketed for therapeutic purposes,' and could not be regulated under FDA's tobacco product authority unless FDA 'deems' them to be 'tobacco products' under the Family Smoking Prevention and Tobacco Control Act (FSPTCA).² In April 2014, FDA issued a proposed rule³ to extend its tobacco product authority to additional products including e-cigarettes, but as of October 2014, this rule had not been finalised so e-cigarettes escaped federal definition. States and localities, however, have been enacting legislation to regulate the use and sale of e-cigarettes.⁴⁻⁶ Even after the FDA wins jurisdiction over e-cigarette *product standards*, states and localities will continue to have authority to enact laws concerning the sales, use or taxation of e-cigarettes because the FSPTCA explicitly preserves state and local authority to regulate the sale, distribution, access to, marketing of or use of tobacco products (including e-cigarettes, should they be 'deemed' tobacco products).⁷

E-cigarette and cigarette companies have been actively promoting legislation designed to serve industry interests.⁸⁻¹¹ Laws that specifically exclude e-cigarettes from the definition of 'tobacco product' or create new product categories for e-cigarettes separate from the tobacco product category means that laws governing tobacco products will not apply to e-cigarettes and require new law-making for e-cigarettes. Laws that explicitly define e-cigarettes as 'tobacco products' or define 'smoking' to include e-cigarettes better protect health because they automatically subject e-cigarettes to the same laws and regulations as conventional cigarettes without additional legislation. The definitions of e-cigarettes in legislation (or regulations) should be constructed to allow broad interpretation for applicability to a diverse set of current and future products.

METHODS

We researched the purpose, status and text of state bills (including the DC, USA) enacted between 1 January 2009 and 15 June 2014 that define e-cigarettes initially using the State Net legislative tracking system and state legislature websites. Search terms included ‘electronic cigarette,’ ‘e-cigarette,’ ‘electronic smoking device,’ ‘alternative nicotine product,’ and ‘vapor product.’ We studied news reports on pending legislation and efforts made by industry and public health representatives to influence the language used in the laws. We supplemented our search to capture additional bills using state legislature websites that used other terms including ‘derived from tobacco,’ ‘tobacco substitute,’ and ‘product containing nicotine.’ We analysed each bill to determine its status (introduced, pending, enacted or failed) and ‘main purpose’ (based on declarations in the bills or our subjective determination of the bill’s language), and included enacted bills in our analysis; online supplementary table S1 includes details of enacted bills we analysed.

RESULTS

The first states to address the sale and use of e-cigarettes by explicitly differentiating and defining these products were New Jersey (‘electronic smoking device,’ 2009), New Hampshire (‘e-cigarette,’ 2009) and California (‘electronic cigarette,’ 2010). By 15 June 2014, 46 laws in 40 states had been enacted that established definitions for e-cigarette products, most often as part of legislation restricting sales to youth. In addition to ‘e-cigarette’ and ‘electronic cigarette’ some states used the terms ‘vapor product,’ ‘alternative nicotine product,’ ‘tobacco derived,’ ‘tobacco substitute,’ ‘electronic nicotine device,’ ‘electronic smoking device,’ or ‘nicotine product’ to define e-cigarettes, or considered e-cigarettes to be ‘tobacco products’ (table 1).

Inclusion or exclusion as a tobacco product

Table 2 assesses whether or not the state law excludes e-cigarettes from the states’ tobacco product definition. Fourteen states exclude e-cigarettes from ‘tobacco products.’ Georgia and Kentucky define e-cigarettes as ‘vapor products’ and exclude vapour products from the definition of tobacco products. South Carolina defines e-cigarettes as ‘alternative nicotine products’ and excludes ‘alternative nicotine products’ from ‘tobacco products.’ Virginia includes e-cigarettes in ‘nicotine vapor product’ which it excludes from tobacco products. Alabama, Arkansas and South Carolina explicitly exclude tobacco products from their definition of ‘electronic cigarette.’ Illinois, Mississippi and Ohio include e-cigarettes in their definition of ‘alternative nicotine product’ and exclude tobacco products from ‘alternative nicotine products.’ Florida, Nebraska and Wisconsin also include e-cigarettes in their definitions of other broader categories, and then exclude tobacco products from those classifications. (Florida uses ‘nicotine dispensing device,’ Nebraska uses ‘vapor product,’ and Wisconsin uses ‘nicotine product.’) Alaska’s definition of ‘product containing nicotine’ excludes tobacco products. Two states (Colorado and South Dakota) explicitly include e-cigarettes in the definition of ‘tobacco product.’ Colorado amended existing law to prohibit furnishing tobacco products to minors and using tobacco products on school property by defining “tobacco product” to include “any product that contains nicotine or tobacco or is

derived from tobacco” *or* “any electronic device that can be used to deliver nicotine to the person inhaling from the device, including but not limited to an electronic cigarette, cigar, cigarillo or pipe.” South Dakota includes e-cigarettes in ‘vapor products,’ then defines ‘tobacco product’ to include vapour products.

Five states (Minnesota, Nevada, Vermont, West Virginia and Wyoming) consider ‘tobacco products’ to include products made *or derived* from tobacco. Since most e-cigarettes contain tobacco-derived nicotine, they would be considered ‘tobacco products’ in these states. However, in cases where companies could demonstrate that their e-cigarettes do not contain nicotine or use nicotine derived from non-tobacco sources, they could argue that these products are not ‘tobacco products.’ The Minnesota Department of Revenue issued a notice in October 2012 stating it had interpreted the law to mean that e-cigarettes were subject to the tobacco products tax since nicotine cartridges are components of e-cigarettes; the Department assumes that all nicotine is derived from tobacco and places the burden on the taxpayer to prove otherwise.¹² North Carolina considers e-cigarettes ‘tobacco products’ for purposes of its 2013 minor access restrictions law, but enacted a tax law in 2014 that creates different tax categories for ‘vapor products’ (includes e-cigarettes) and ‘tobacco products’ (excludes vapour products and therefore e-cigarettes).

Twenty-eight states do not specify whether e-cigarettes are included in their definitions of tobacco product.

Industry lobbyists attempted to include language in laws that would restrict youth access to e-cigarettes, but also exclude e-cigarettes from existing tobacco control laws, while health advocates wanted legislative language that included e-cigarettes in states’ clean air and tax laws.^{1113–28}

Inclusion in the definition of ‘smoking’

New Jersey and Utah amended existing smoke-free laws to include e-cigarette use in their definitions of smoking, and North Dakota included e-cigarette use in its definition of smoking when passing its statewide smoke-free law. New Jersey amended its laws on smoking in indoor public places and work-places to define “electronic smoking device” as “an electronic device that can be used to deliver nicotine or other substances to the person inhaling from the device, including, but not limited to, an electronic cigarette, cigar, cigarillo, or pipe” and explicitly includes “the inhaling or exhaling of smoke or vapor from an electronic smoking device” in its definition of “smoking,” thereby prohibiting the use of electronic cigarettes in all enclosed indoor places of public access and workplaces. Utah’s law also explicitly provides that “smoking” means “using an e-cigarette.” North Dakota’s smoke-free law states: “‘Smoking’ also includes the use of an e-cigarette which creates a vapor, in any manner or any form...”

Specifying nicotine as a component

New Jersey’s definition of “electronic smoking device” states that the device is used “to deliver nicotine *or other substances* to the person inhaling from the device,” which could easily be interpreted to include e-cigarettes that deliver other drugs or chemical flavouring (such as chocolate, cherry, and bubble gum) even if marketed as ‘nicotine-free.’ Twelve

other states (Alabama, Arkansas, Connecticut, Hawaii, Kentucky, Minnesota, Mississippi, North Dakota, Ohio, Oklahoma, South Carolina and Utah) use similar language and therefore include e-cigarettes that purportedly do not contain nicotine.

Seventeen states (Alaska, Arizona, Florida, Georgia, Illinois, Iowa, Nebraska, Nevada, New Hampshire, New York, South Dakota, Tennessee, Vermont, Virginia, Washington, West Virginia and Wisconsin) have definitions of e-cigarettes that require nicotine. Georgia and Nebraska define ‘vapor product,’ which includes e-cigarettes, to be “any non-combustible product containing nicotine that employs a heating element, power source, electronic circuit...” and New Hampshire defines an “e-cigarette” as a device “that provides a vapour of pure nicotine mixed with propylene glycol...” Nevada does not explicitly define “e-cigarettes,” but includes products that are “made or derived from tobacco” in its definition of “tobacco products,” so if extended to e-cigarettes, implicitly they would require tobacco-derived nicotine as a component in the devices.

Ten states (California, Colorado, Delaware, Idaho, Indiana, Kansas, Louisiana, Maryland, North Carolina, Wyoming) have definitions with ambiguous language regarding nicotine. For example, California defines “electronic cigarette” as a device “that *can provide* an inhalable dose of nicotine” and Indiana defines “electronic cigarette” to be a device “that *is capable of* providing an inhalable dose of nicotine...” Since e-cigarette devices that ‘can’ or are ‘capable of’ providing or delivering nicotine are generally also capable of using cartridges with nicotine-free flavourings, it is unclear whether e-cigarettes that are using cartridges or tanks that claim to be delivering only flavours without nicotine would be covered by these definitions.

Pre-emption

Five states (Iowa, Louisiana, Nevada, Oklahoma and South Carolina) enacted laws preempting stronger local laws and regulations. Louisiana amended its “Prevention of Youth Access to Tobacco Law” making it unlawful to sell, purchase or possess ‘vapor products’ (including e-cigarettes), alternative nicotine products and tobacco products. The amendment provided that the law superseded existing or subsequently adopted local ordinances or regulations relating to alternative nicotine products and vapour products, in addition to tobacco products. Nevada, Oklahoma, and South Carolina amended existing pre-emption laws to add e-cigarettes. Iowa amended an existing law concerning tobacco taxes that included pre-emption language to create different categories for ‘alternative nicotine products’ and ‘vapor products’ (including e-cigarettes), thus prohibiting local governments from enacting laws and regulations relating to e-cigarettes. Three states (California, Minnesota and Nebraska) have language explicitly providing that local governments are *not* pre-empted from adopting more stringent prohibitions related to e-cigarette sales, distribution and/or use.

DISCUSSION

The e-cigarette market offers hundreds of brands, flavours and nicotine levels in a large variety of products using varied terminology (e-hookah, vape-pens, hookah pens and personal vaporizers) and sometimes including separate components and cartridges.¹ This has

created challenges for states' efforts to regulate these diverse and little understood products, resulting in wide variation in e-cigarette definitions in state laws, including how those definitions are included or excluded from definitions of 'tobacco products' and 'smoking.' These definitions determine whether e-cigarettes will be regulated as other tobacco products and therefore have significant public health implications. The simplest way to include e-cigarettes in tobacco control legislation is to add the short phrase, 'including e-cigarettes' (or whatever term defines e-cigarettes such as 'electronic smoking device' or 'vapor product') in every place where the term 'tobacco products' or 'cigarettes' appear in youth access, smoke-free, and taxation laws without changing other aspects of the existing laws, and to broadly define the products to include current and future devices, regardless of nicotine content.

Excluding e-cigarettes from the tobacco products definition precludes states from regulating e-cigarettes under existing laws and regulations applicable to tobacco products. Constructing different mutually exclusive categories for each type of product, such as tobacco, tobacco-derived, and vapour product, also adds unnecessary complexity and leaves existing laws open to interpretation and interference by protobacco forces. In contrast, including the provision "inhaling or exhaling of smoke or vapour from an electronic smoking device" in the definition of 'smoking' (as three states did) ensures that smoke-free laws include e-cigarette use without concern for whether or not the product contains tobacco, and without the need to convince the legislature to expand existing smoke-free laws.

Many definitions of e-cigarettes require the products to either contain nicotine or to be 'made or derived from tobacco.' This language narrows the reach of the legislation and can create problems for regulating sales, use, marketing or taxation of e-cigarettes. Purportedly 'nicotine-free' e-cigarettes²⁹³⁰ would escape regulation, despite the fact that many nominally nicotine-free products contain nicotine.³¹⁻³⁴

FDA's proposed deeming rule would extend its authority to cover all products meeting the statutory definition of "tobacco product," which is "any product made or derived from tobacco that is intended for human consumption, including any component, part or accessory of a tobacco product..."³⁵ This definition includes e-cigarettes that use tobacco-derived nicotine; however, it is problematic because e-cigarettes that purport to be nicotine-free, or claim to be made from non-tobacco sources of nicotine, would not meet this statutory definition. For example, companies such as GreenSmartLiving have claimed that their e-cigarettes are 'better for the planet' because they use nicotine derived from non-tobacco plant sources (eggplants, potatoes or tomatoes).³⁶ This claim is hard to believe because 10 kg of eggplant would be required to obtain 1 mg of nicotine, the amount commonly found in one cigarette.³⁷ With technological advances, however, non-tobacco derived nicotine could become economical using genetically modified non-tobacco plants³⁸ or synthetic nicotine. Products that do not contain nicotine are not covered by e-cigarette definitions in the 2014 European Union Tobacco Products Directive,³⁹⁴⁰ New Zealand⁴¹ and Canada.⁴² This distinction also makes it possible to sell (and purchase) e-cigarette devices and nicotine cartridges separately, thereby avoiding regulation.⁴¹⁻⁴³

Definitions that broadly define e-cigarettes or explicitly include them in definitions of 'smoking' avoid the problems associated with more narrow definitions. For example, New

Jersey defines “electronic smoking device” to mean “an electronic device that can be used to deliver nicotine or other substances to the person inhaling from the device, including, but not limited to, an electronic cigarette, cigar, cigarillo or pipe” and defines “smoking” to include “the inhaling or exhaling of smoke or vapour from an electronic smoking device.”⁴⁴ These definitions do not require nicotine, do not require the product to be made or derived from tobacco, and do not require combustion. Instead, the inclusive language allows regulation of all kinds of devices (including those that do not yet exist but may be developed in the future), and simplifies enforcement because it does not require knowing whether a product contains nicotine or is made or derived from tobacco by looking at it. This definition of ‘smoking’ helps thwart the renormalisation of smoking by prohibiting public use of e-cigarettes and other products that mimic smoking and simplifies enforcement by observation of smoking behaviour without having to determine whether the product is a combustible cigarette or an e-cigarette.

State laws with language that explicitly provides they do not pre-empt local laws (California, Minnesota, Nebraska) give local legislatures and agencies, which tend to be more nimble and responsive than state legislatures, the ability to craft additional or more rigorous rules and regulations in a more timely and efficient fashion.

States may define e-cigarettes differently in statutory codes applicable to different situations. For example, to be taxed as ‘tobacco products’ in Minnesota, the state tax code requires e-cigarettes to contain nicotine that is “made or derived from tobacco,”⁴⁵ while amendments to Minnesota’s Clean Indoor Air Act cover e-cigarettes that do not contain nicotine, since e-cigarettes are included in the definition of ‘electronic delivery devices’ that can deliver nicotine ‘or any other substance.’⁴⁶ The definition of “electronic cigarette” in Utah’s criminal procedure code restricting youth access to e-cigarettes seems to require nicotine (“‘electronic cigarette’ means any device, other than a cigarette or cigar, intended to deliver vapor containing nicotine into a person’s respiratory system”),⁴⁷ while Utah’s Indoor Clean Air Act defines “e-cigarette” as an electronic oral device “that provides a vapor of nicotine or other substance,” so nicotine is not required.⁴⁸ Such varying definitions (whether in laws or regulations) have the potential to cause confusion regarding how e-cigarettes are treated by other laws.

Industry efforts to pass legislation undermining e-cigarette regulation

Tobacco and e-cigarette companies have been using legitimate concerns about sales of e-cigarettes to youth to enact ‘Trojan Horse’ legislation in which laws nominally restricting sales to youth are used as vehicles to enact problematic definitions and other provisions that will make it more difficult to regulate e-cigarettes. The industry used a similar strategy after Congress passed the Synar Amendment in 1992 that required states to report their efforts to control youth access to cigarettes and threatened states with cuts to their substance abuse funding if they did not demonstrate reduced sales of tobacco to youth.^{49,50} Industry lobbyists (inaccurately) told lawmakers that new youth access legislation was required to protect substance abuse funding and won enactment of unenforceable laws that often included pre-emption that prevented localities from enacting stronger laws.^{49,51}

Industry efforts to pass Oklahoma's Senate Bill 802 in 2013 illustrates the strategy of protecting e-cigarettes by including definitions in legislation nominally drafted to restrict youth access to e-cigarettes that would exclude these products from existing tobacco control laws. After lobbying by RJ Reynolds, the Senate created separate definitions for 'tobacco-derived product' and for 'vapor product' which included a narrow definition of e-cigarettes.¹¹²⁴ The amended bill prohibited e-cigarette sales to minors, but also taxed sales of 'vapor products' (defined to include e-cigarettes and cartridges) and 'tobacco-derived products' (including e-liquid and cartomizers containing nicotine) at five cents per 1.48 mL of liquid, a rate 90% lower than conventional cigarettes.¹¹

SB 802 was defeated and Oklahoma enacted a different law (SB 1602) in 2014¹⁴ (table 2) that did not expand the definition of 'tobacco products' to include e-cigarettes, but included e-cigarettes in a separate category of 'vapor products' (with or without nicotine), and pre-empted local laws concerning vapour products. It did not tax vapour products.

North Carolina enacted a law in 2013 that restricts minor access to 'vapor products' (table 2) and explicitly includes 'vapor products' in its definition of 'tobacco product,' which facilitates including these products in the state's clean air and tobacco tax laws. However, in 2014 tobacco lobbyists won a tax law that explicitly excludes 'vapor product' (defined to include e-cigarettes and e-cigarette cartridges) from the definition of 'tobacco product.' The law also established an extremely low excise tax for vapour products at five cents per millilitre of nicotine liquid, which equates to five cents/pack of cigarettes¹³ (table 2).

In 2014, industry representatives and members of the National Center for Public Policy Research (a conservative organisation with longstanding connections to Philip Morris and RJ Reynolds¹⁷²²) clashed with health advocates in Iowa, Florida and Oklahoma over efforts to promote bills that would prevent e-cigarettes from being taxed like tobacco products or included in state smoke-free air laws and that would pre-empt stronger local laws.⁹²³²⁶ These states enacted laws creating new categories for e-cigarettes, and Iowa and Oklahoma enacted laws with pre-emption clauses.

The tobacco industry uses state legislation to pre-empt more stringent local sales, youth access, and smoke-free air policies,⁴⁹⁵¹⁻⁵³ often using 'Trojan Horse' bills that nominally restrict youth access to tobacco products, but actually thwart local efforts to enact effective tobacco control laws. State laws with language that explicitly provides they do not pre-empt local laws (California, Minnesota, Nebraska) give local legislatures and agencies, which tend to be more nimble and responsive than state legislatures, the ability to craft additional or more rigorous rules and regulations in a more timely and efficient fashion.

LIMITATIONS

Since our original search terms ('electronic cigarette,' 'e-cigarette,' 'electronic smoking device,' 'alternative nicotine product,' and 'vapor product') did not capture all bills concerning e-cigarettes, we supplemented our search by adding laws from legislative websites that included other terms including 'derived from tobacco' and 'tobacco substitute.' This process may not have captured every bill that was introduced if other terms were used, and may have excluded some laws classified as 'cigarette tax' bills. This paper is limited to

bills that were enacted as of 15 June 2014. Additional state bills concerning e-cigarettes may have been enacted or introduced after that date.

CONCLUSION

Policy makers must be wary of tobacco and e-cigarette industry influences trying to shape laws that benefit their financial interests, and carefully draft legislation with definitions of e-cigarettes that: (1) broadly define the products to include current and future devices; (2) do not require nicotine; (3) do not require the products to be made or derived from tobacco; (4) do not exclude e-cigarettes from existing definitions of “tobacco products”; (5) do not exempt e-cigarettes from regulations that concern advertising, marketing, and/or warning labels; (6) explicitly include e-cigarettes in smoke-free and taxation laws; and (7) do not preempt stronger regulations at the state or local levels.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

1. Grana R, Benowitz N, Glantz SA. E-cigarettes: a scientific review. *Circulation*. 2014; 129:1972–86. [PubMed: 24821826]
2. *Sottera, Inc. v. FDA*, 627 F.3d 891 (D.C. Cir. 2010).
3. Food and Drug Administration. Deeming Tobacco Products to Be Subject to the Federal Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Regulations on the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Products; Proposed Rule, April 25, 2014. 79 FR 23141. 2014.
4. National Conference of State Legislatures. [accessed 10 Jul 2014] Table of State Actions Concerning Alternative Nicotine Products/Electronic Cigarettes. 2014. <http://www.ncsl.org/research/health/alternative-nicotine-products-e-cigarettes.aspx>
5. American Nonsmokers' Rights Foundation. [accessed 10 Jul 2014] US State and Local Laws Regulating Use of Electronic Cigarettes. 2014. <http://www.no-smoke.org/pdf/ecigslaws.pdf>
6. Gourdet CK, Chriqui JF, Chaloupka FJ. A baseline understanding of state laws governing e-cigarettes. *Tob Control*. 2014; 23(Suppl 3):iii37–40. [PubMed: 24935897]
7. Family Smoking Prevention and Tobacco Control Act, Sect. 916, P.L. 111–31 (22 June 2009).
8. Eggert, D. [accessed 10 Jul 2014] Why Snyder May Veto E-Cigarette Bills That Would Prohibit Sale to Minors. Jun 22. 2014 <http://www.freep.com/article/20140622/NEWS06/306220121/snyder-michigan-electronic-cigarettes>

9. McGrory, K. [accessed 10 Jul 2014] Anti-Smoking Groups Work to Kill E-Cigarette Bill in Florida. Apr 7. 2014 <http://www.miamiherald.com/2014/04/07/4045386/anti-smoking-groups-work-to-kill.html>
10. Maguire, M. [accessed 10 Jul 2014] North Carolina Lawmakers Adopt Tax on Electronic Cigarettes. May 29. 2014 <http://www.reuters.com/article/2014/05/29/usa-cigarettes-north-carolina-idUSL1N0OF22R20140529>
11. Bandyk, M. [accessed 10 Jul 2014] Big Tobacco Stubs out E-Cigarette Competitors. Apr 6. 2013 <http://dailycaller.com/2013/04/06/big-tobacco-stubs-out-e-cigarette-competitors/>
12. Minnesota Dept. of Revenue. [accessed 10 Jul 2014] Revenue Notice #12-10: Tobacco Products Tax—Taxability—E-Cigarettes. 2012. http://www.revenue.state.mn.us/law_policy/revenue_notices/RN_12-10.pdf
13. North Carolina HB 1050. [accessed 10 Jul 2014] 2014. <http://www.ncleg.net/Sessions/2013/Bills/House/PDF/H1050v6.pdf>
14. Oklahoma SB 1602. [accessed 10 Jul 2014] 2014. <http://www.oklegislature.gov/BillInfo.aspx?Bill=sb1602&Session=1400>
15. American Legislative Exchange Council. [accessed 10 Jul 2014] ALEC Website. 2013. <http://www.alec.org/about-alec/>
16. Consumer Advocates for Smoke-Free Alternatives Association. [accessed 10 Jul 2014] Call to Action! Oklahoma Bill to Tax E-Cigarettes and More—SB 802 (Defeated). 2013. <http://blog.casaa.org/2013/03/call-to-action-oklahoma-bill-to-tax-e.html>
17. Fallin A, Grana R, Glantz SA. ‘To Quarterback behind the scenes, Third-Party Efforts’: the tobacco industry and the tea party. *Tob Control*. 2014; 23:322–31. [PubMed: 23396417]
18. Gehrke, R. [accessed 10 Jul 2014] ALEC Bringing Its Clout, Agenda and Convention to Utah. Jul 14. 2012 <http://www.sltrib.com/sltrib/politics/54485756-90/alec-utah-legislation-group.html.csp>
19. Hoban, R.; Namkoong, H. [accessed 10 Jul 2014] Tobacco Industry Proposes Tax on E-Cigarettes. May 15. 2014 <http://www.northcarolinahealthnews.org/2014/05/15/tobacco-industry-proposes-tax-on-e-cigarettes/>
20. Kershaw, O. [accessed 10 Jul 2014] Big Tobacco and E-Cigarettes—the Game of E-Cigs. May 9. 2013 <http://vaping.com/blog/big-tobacco-and-e-cigarettes-the-game-of-e-cigs>
21. Landman, A. Center for Media and Democracy. [accessed 10 Jul 2014] ALEC and the Tobacco Industry. 2011. <http://www.prwatch.org/news/2011/07/10787/alec-and-tobacco-industry>
22. National Center for Public Policy Research. [accessed 10 Jul 2014] NCPPR Website. 2014. <http://www.nationalcenter.org/NCPPRHist.html>
23. National Center for Public Policy Research. National Center’s Jeff Stier, Though Caught in Snowstorm, Will Testify before Special Committee of Oklahoma Legislature on Tobacco Harm Reduction Measures and E-Cigarette Regulation—Testimony Comes as Major U.S. Cities Consider Banning Public Use of E-Cigarettes Despite Their Proven Ability to Help Tobacco Smokers Quit. 2014. http://www.nationalcenter.org/PR-E-Cigarettes_012214.html (accessed)
24. Oklahoma State Legislature. [accessed 10 Jul 2014] Bill Information and Video Clip for SB 802. 2013. http://okhouse.granicus.com/MediaPlayer.php?view_id=2&clip_id=627
25. Richtel, M. [accessed 10 Jul 2014] Where Vapor Comes Sweeping Down the Plain—E-Cigarettes Take Hold in Oklahoma. Apr 26. 2014 http://www.nytimes.com/2014/04/27/business/e-cigarettes-take-hold-in-oklahoma.html?smid=fb-share&smv1&_r=0
26. Stier, J. [accessed 10 Jul 2014] Iowa Should Tread Carefully on E-Cigarette Rules. Jan 29. 2014 <http://www.jeffstier.org/14365/iowa-ecigarettes>
27. Vonder Haar, MNC. [accessed 10 Jul 2014] Passes Electronic Cigarette Tax—Reynolds Supported the Five Cents Per Milliliter of E-Liquid Tax. Jun 4. 2014 <http://www.cspnet.com/category-news/tobacco/articles/nc-passes-electronic-cigarette-tax>
28. Wikipedia. [accessed 10 Jul 2014] List of Members of the American Legislative Exchange Council. http://en.wikipedia.org/wiki/List_of_members_of_the_American_Legislative_Exchange_Council
29. Hookah & Shisha Central. [accessed 10 Jul 2014] Smooth E-Hookah. 2014. <http://www.hookah-shisha.com/p-13730-smooth-e-hookah-tobacco-free-electronic-hookah.html>

30. Prime Vapor. [accessed 10 Jul 2014] Zero Nicotine. 2014. <http://www.primevapor.com/fiavor-e-cigarette-cartridges-1/zero-nicotine-10/>
31. Goniewicz M, Kuma T, Gawron M, et al. Nicotine levels in electronic cigarettes. *Nicotine Tob Res.* 2013; 15:158–66. [PubMed: 22529223]
32. Trehy M, Ye W, Hadwiger M, et al. Analysis of electronic cigarette cartridges, refill solutions, and smoke for nicotine and nicotine related impurities. *J Liq Chromatogr Relat Technol.* 2011; 34:1442–58.
33. Cameron J, Howell D, White J, et al. Variable and potentially fatal amounts of nicotine in e-cigarette nicotine solutions. *Tob Control.* 2014; 23:77–8. [PubMed: 23407110]
34. Goniewicz M, Hajek P, McRobbie H. Nicotine content of electronic cigarettes, its release in vapour and its consistency across batches: regulatory implication. *Addiction.* 2014; 109:500–7. [PubMed: 24345184]
35. Food and Drug Administration. Deeming tobacco products to be subject to the Federal Food, Drug, and Cosmetic Act, as amended by the family smoking prevention and tobacco control act; regulations on the sale and distribution of tobacco products and required warning statements for tobacco products; proposed rule, April 25, 2014. 79 Fr 23141 at 23203. 2014.
36. GreenSmartLiving. [accessed 10 Jul 2014] GreenSmartLiving E-Cigs Are Better for the Planet. 2014. <http://greensmartliving.com/how-it-works>
37. Domino EF, Hornbach E, Demana T. The nicotine content of common vegetables. *N Engl J Med.* 1993; 329:437. [PubMed: 8326992]
38. Redington, T. [accessed 10 Jul 2014] European Patent Allowed for 22nd Century’s Nicotine Biosynthesis Genes. Nov 29. 2013 <http://www.businesswire.com/news/home/20131129005312/en#.U8BLtmx3seg>
39. European Parliament, Council of the European Union. [accessed 10 Jul 2014] Directive of the European Parliament and of the Council of 3 April 2014 on the Approximation of the Laws, Regulations, and Administrative Provisions of the Member States Concerning the Manufacture, Presentation and Sale of Tobacco and Related Products and Repealing Directive 2001/37/EC. 2014. http://ec.europa.eu/health/tobacco/docs/dir_201440_en.pdf
40. European Commission. [accessed 10 Jul 2014] Memo: Questions & Answers: New Rules for Tobacco Products. 2014. http://europa.eu/rapid/press-release_MEMO-14-134_en.htm
41. New Zealand Ministry of Health. [accessed 10 Jul 2014] Electronic Nicotine Delivery Systems (Ends), Including E-Cigarettes. 2013. <http://www.health.govt.nz/our-work/preventative-health-wellness/tobacco-control/electronic-nicotine-delivery-systems-ends-including-e-cigarettes>
42. Health Canada. [accessed 10 Jul 2014] Notice—to All Persons Interested in Importing, Advertising or Selling Electronic Smoking Products in Canada. 2009. http://www.hc-sc.gc.ca/dhp-mps/prodpharma/applic-demande/pol/notice_avis_e-cig-eng.php
43. Mulholland, A. [accessed 10 Jul 2014] CTV News: E-Cigarettes in Regulatory Grey Zone: Are They Banned or Aren’t They?. Apr 22. 2014 <http://www.ctvnews.ca/health/health-headlines/e-cigarettes-in-regulatory-grey-zone-are-they-banned-or-aren-t-they-1.1786365>
44. New Jersey A 4227. [accessed 10 Jul 2014] 2010. <http://openstates.org/nj/bills/213/A4227/#billtext>
45. Minnesota HF 677. [accessed 10 Jul 2014] 2013. <https://www.revisor.mn.gov/bills/bill.php?b=House&f=HF0677&ssn=0&y=2013>
46. Minnesota HF 2402. [accessed 10 Jul 2014] 2014. <https://www.revisor.mn.gov/bills/bill.php?b=house&f=HF2402&ssn=0&y=2013>
47. Utah HB 88. [accessed 10 Jul 2014] 2010. <http://le.utah.gov/~2010/bills/static/HB0088.html>
48. Utah HB 245. [accessed 10 Jul 2014] 2012. <http://le.utah.gov/~2012/bills/static/HB0245.html>
49. Siegel M, Carol J, Jordan J, et al. Preemption in tobacco control. Review of an emerging public health problem. *JAMA.* 1997; 278:858–63. [PubMed: 9293996]
50. State Law Regarding Sale of Tobacco Products to Individuals under Age of 18. [accessed 10 Jul 2014] 1992. <http://www.gpo.gov/fdsys/pkg/USCODE-2010-title42/pdf/USCODE-2010-title42-chap6A-subchapXVII-partB-subpartii-sec300x-26.pdf>

51. Givel M, Glantz S. Tobacco lobby political influence on US state legislatures in the 1990s. *Tob Control*. 2001; 10:124–34. [PubMed: 11387532]
52. Centers for Disease Control and Prevention. State preemption of local tobacco control policies restricting smoking, advertising, and youth access—United States, 2000–2010. *MMWR Morb Mortal Wkly Rep*. 2011; 60:1124–7. [PubMed: 21866085]
53. Institute of Medicine. *For the public's health: revitalizing law and policy to meet new challenges*. Washington DC: National Academies Press; 2011.
54. North Dakota HB 1292. [accessed 10 Jul 2014] 2013. http://legiscan.com/ND/text/1292/id/804800/North_Dakota-2013-1292-Enrolled.pdf
55. Iowa HF 2109. [accessed 10 Jul 2014] 2014. <http://coolice.legis.iowa.gov/Legislation/85thGA/Enrolled/HF2109.html>
56. Colorado HB 11-1016. [accessed 10 Jul 2014] 2011. [http://www.leg.state.co.us/clics/clics2011a/csl.nsf/billcontainers/78CCDD6C6E59B37187257808008013AE/\\$FILE/1016_enr.pdf](http://www.leg.state.co.us/clics/clics2011a/csl.nsf/billcontainers/78CCDD6C6E59B37187257808008013AE/$FILE/1016_enr.pdf)
57. North Carolina SB 530. [accessed 10 Jul 2014] 2013. <http://www.ncleg.net/Sessions/2013/Bills/Senate/PDF/S530v6.pdf>
58. Hawaii HB 672. [accessed 10 Jul 2014] 2013. http://www.capitol.hawaii.gov/Archives/measure_indiv_Archives.aspx?billtype=HB&billnumber=672&year=2013
59. Florida SB 224. [accessed 10 Jul 2014] 2014. <http://www.flsenate.gov/Session/Bill/2014/0224>

What this paper adds

- The popularity of e-cigarettes has skyrocketed across the world.
- Governments are just beginning to enact laws and regulations for e-cigarettes, including their sales and use and taxation.
- The e-cigarette market comprises hundreds of brands and a wide variety of e-cigarette products. Despite the variation in these products, they are referred to (often interchangeably) as e-cigarettes, e-hookah, e-cigars, and vape-pens, among other terms.
- How e-cigarettes are defined impacts how they are regulated.
- In the absence of federal regulations in the USA, states have enacted laws regulating the sales, use and taxation of e-cigarettes.
- Definitions separating e-cigarettes from other tobacco products are common, and allow e-cigarettes to evade sales and marketing restrictions, smoke-free laws and taxation.

Table 1

Main terms used in state laws defining e-cigarettes

Term	Sample definition	States using term	Number of states using term	Significant features
E-cigarette or Electronic cigarette	'E-cigarette' means any electronic oral device, such as one composed of a heating element and battery or electronic circuit, or both, which provides a vapour of nicotine or any other substances, and the use or inhalation of which simulates smoking. The term shall include any such device, whether manufactured, distributed, marketed, or sold as an e-cigarette, e-cigar, and e-pipe or under any other product, name or descriptor. (North Dakota ⁵⁴)	AL, AR, CA, ID, IN, KS, MS, NH, NY, ND, OH, SC, TN, UT, WY	15	Broadly defined to include other e-products such as e-cigars and e-pipes Does not require nicotine
Vapour product	"Vapor product" means a non-combustible product containing nicotine that employs a mechanical heating element, battery, or circuit, regardless of shape or size, that can be used to heat a nicotine solution, and includes but is not limited to a cartridge or other container of such nicotine solution, an electronic cigarette, an electronic cigar, an electronic cigarillo, or an electronic pipe." Vapor product" does not include a product regulated as a drug or device by the USA FDA under chapter V of the federal Food, Drug, and Cosmetic Act." (Iowa ⁵⁵)	AZ, CT, GA, IA, KY, LA, NE, NC, OK, SD, VA, WA, WV (Also SFATA model bills)	13	Includes other e-products and cartridges Requires nicotine Excludes Food and Drug Administration (FDA) regulated products Separately defined from 'tobacco products,' so evades tobacco tax and other tobacco regulations
Alternative nicotine product	"Alternative nicotine product" means a product, not consisting of or containing tobacco, that provides for the ingestion into the body of nicotine, whether by chewing, absorbing, dissolving, inhaling, snorting, or sniffing, or by any other means." Alternative nicotine product" does not include cigarettes, tobacco products, or vapour products, or a product that is regulated as a drug or device by the USA FSA under chapter V of the federal Food, Drug, and Cosmetic Act. (Iowa ⁵⁵)	AL, AR, GA, IL, IA, KY, LA, MS, NE, OH, SC, VA, WV	13	Excludes cigarettes, vapour products, and e-cigarettes Requires nicotine Excludes FDA regulated products Separately defined from 'tobacco products,' so evades tobacco tax and other tobacco regulations
Tobacco product	(5) (a) As used in this section, 'tobacco product' means: (i) Any product that contains nicotine or tobacco or is derived from tobacco and is intended to be ingested or inhaled by or applied to the skin of an individual; or (ii) any electronic device that can be used to deliver nicotine to the person inhaling from the device, including but not limited to an electronic cigarette, cigar, cigarillo, or pipe. (b) Notwithstanding any provision of paragraph (a) of this subsection (5) to the contrary, "tobacco product" does not mean any product that the FDA of the USA department of health and human services has approved as a tobacco use cessation product. (Colorado ⁵⁶)	CO, MN, NC, NV, SD, VT, WV, WY	8	E-cigarettes treated the same as tobacco products Requires nicotine Excludes FDA regulated cessation products
Tobacco derived or Tobacco substitute	Tobacco-derived product—any non-combustible product derived from tobacco that contains nicotine and is intended for human consumption, whether chewed, absorbed, dissolved, ingested, or by other means. This term does not include a vapour product or any product regulated by the USA FDA under Chapter V of the	DE, MN, NV, NC, VT, WV	6	Requires nicotine Excludes FDA regulated products NC definition excludes e-cigarettes, but MN interprets 'tobacco-derived' to include e-cigarettes for tax purposes

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Term	Sample definition	States using term	Number of states using term	Significant features
Electronic nicotine device or Electronic smoking device	<p>federal Food, Drug, and Cosmetic Act. (North Carolina⁵⁷)</p> <p>'Electronic smoking device' means any electronic product that can be used to simulate smoking in the delivery of nicotine or other substances to the person inhaling from the device, including but not limited to an electronic cigarette, electronic cigar, electronic cigarillo, or electronic pipe and any cartridge or other component of the device or related product. (Hawaii⁵⁸)</p>	CT, FL, HI, MD, MN, NJ	6	Broadly defined to include other e-products such as e-cigars and e-pipes and cartridges HI definition does not require nicotine, but FL and MN require nicotine Excludes FDA regulated products
Nicotine Product	<p>'Nicotine product' means any product that contains nicotine, including liquid nicotine, that is intended for human consumption, whether inhaled, chewed, absorbed, dissolved, or ingested by any means, but does not include a:1. Tobacco product, as defined in s. 569.002;2. Product regulated as a drug or device by the United States Food and Drug Administration (FDA) under Chapter V of the federal Food, Drug, and Cosmetic Act; or3. Product that contains incidental nicotine. (Florida⁵⁹)</p>	AK, FL, NH, WI	4	Excludes tobacco products Requires nicotine

AK, Alaska; AL, Alabama; AR, Arkansas; AZ, Arizona; CA, California; CO, Colorado; CT, Connecticut; DE, Delaware; FL, Florida; GA, Georgia; HI, Hawaii; IA, Iowa; ID, Idaho; IL, Illinois; IN, Indiana; KS, Kansas; KY, Kentucky; LA, Louisiana; MD, Maryland; MN, Minnesota; MS, Mississippi; NC, North Carolina; NE, Nebraska; NJ, New Jersey; NH, New Hampshire; NV, Nevada; NY, New York; OH, Ohio; OK, Oklahoma; SD, South Dakota; SC, South Carolina; TN, Tennessee; UT, Utah; VA, Virginia; VT, Vermont; WA, Washington; WI, Wisconsin; WV, West Virginia; WY, Wyoming.

Table 2

Summary of terms used in definitions of e-cigarettes in state laws

State	Main Term Defined					Nicotine					Tobacco product					Pre-emption			
	Electronic cigarette	E-cigarette	Electronic smoking or nicotine device	Alternative nicotine product	Vapour product	Tobacco-derived	Tobacco Product	Tobacco substitute	Nicotine Product	Excludes regulated drugs and devices	Requires nicotine	Does not require nicotine	May require nicotine	Excludes tobacco products	Excludes e-cigs in 'Tobacco Products'	Includes e-cigs in 'Tobacco Products'	E-cigs Included in 'Smoking definition'	Preempts local laws	Does not preempt local laws
Alabama	X			X					X		X		X						
Alaska								X		X		X							
Arizona					X				X	X									
Arkansas	X			X					X		X		X						
California	X								X			X							X
Colorado						X			X			X			X				
Connecticut			X						X		X								
Delaware							X		X		X								
Florida			X					X	X			X							
Georgia				X					X	X					X				
Hawaii			X						X		X								
Idaho	X								X			X							
Illinois				X					X				X						
Indiana	X								X		X								
Iowa				X					X										X
Kansas	X								X			X							
Kentucky				X					X										
Louisiana				X					X										X
Maryland			X						X										
Minnesota			X						X		X ⁽²⁾								X
Mississippi	X			X					X	X ⁽¹⁾									X
Nebraska			X						X										X
Nevada									X										X
New									X										X

State	Main Term Defined					Nicotine					Tobacco product					Pre-emption			
	Electronic cigarette	E-cigarette	Electronic smoking or nicotine device	Alternative nicotine product	Vapour product	Tobacco-derived	Tobacco Product	Tobacco substitute	Nicotine Product	Excludes regulated drugs and devices	Requires nicotine	Does not require nicotine	May require nicotine	Excludes tobacco products	Excludes e-cigs in 'Tobacco Products'	Includes e-cigs in 'Tobacco Products'	E-cigs Included in 'Smoking definition'	Preempts local laws	Does not preempt local laws
Hampshire																			
New Jersey			X								X						X		
New York	X	X																	
North Carolina				X	X	X			X			X			X ⁽⁴⁾				
North Dakota										X							X		
Ohio	X			X					X		X		X						
Oklahoma					X				X		X							X	
South Carolina	X			X					X		X		X						X
South Dakota							X		X						X				
Tennessee	X									X									
Utah	X	X ⁽⁵⁾								X ⁽⁵⁾	X ⁽⁶⁾						X ⁽⁶⁾		
Vermont							X			X					X ⁽⁷⁾				
Virginia			X		X				X	X			X						
Washington					X				X	X									
West Virginia			X		X		X		X	X					X ⁽⁷⁾				
Wisconsin								X	X	X			X						
Wyoming	X						X				X				X ⁽⁷⁾				
TOTALS	13	5	6	13	13	6	8	1	4	25	17	13	10	10	4	8	3	5	3

⁽¹⁾ Nicotine required for taxation purposes, because based on definition of 'tobacco products'.

⁽²⁾ Nicotine not required for sales, purchase, use, child-packaging, and other protections because based on definition of 'electronic delivery device'.

⁽³⁾ State law does not explicitly include e-cigs in 'tobacco products,' but Dept. of Revenue interprets 'tobacco products' to include e-cigs.

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(4) Tobacco products' definition limited to youth access provisions, and explicitly does not apply to taxation.

(5) Utah HB 88 (2010—youth access).

(6) Utah HB 245 (2012—Indoor Clean Air Act).

(7) Requires tobacco-derived nicotine e-cigs, e-cigarettes.