

# ASHES, Vol. 16(4) - Statewide bans on public vaping predict reduced e-cigarette use in older adults, but not young adults

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Laws that ban smoking in public spaces, like restaurants, parks, and workplaces, [reduce harms](#) related to cigarettes and secondhand smoke. However, many U.S. states have yet to introduce legislation regulating public use of the alarmingly popular [e-cigarette](#). Many people do not [consider public smoking bans applicable to vaping](#), so bans specific to public e-cigarette use, or aerosol-free policies, are likely necessary. But could *aerosol-free policies* encourage people to cut down on e-cigarette use? This week, ASHES reviews a [study by Boram Lee, Hsien-Chang Lin, and Dong-Chul Seo](#) that examined the relationship between states with and without aerosol-free policies, and the vaping behavior of their residents.

## **What was the research question?**

Do statewide aerosol-free policies, as well as age and smoking history, predict U.S. adults' e-cigarette use?

## **What did the researchers do?**

Lee and colleagues analyzed [data](#) from 240,849 participants aged 18 to 59<sup>1</sup> in the 2016 [Behavioral Risk Factor Surveillance System](#), a national survey administered by the Centers for Disease Control and Prevention. They excluded survey respondents from California, Vermont, and Washington D.C. because these areas introduced aerosol-free policies in 2016, [the year of the survey](#). The survey assessed respondents' age, state of residence, whether respondents regularly used e-cigarettes (either every day or some days), and whether they currently or had ever [smoked cigarettes frequently](#). The researchers used [chi-square](#) and [logistic regression](#) tests to determine whether age, smoking history, and/or state of residence differentiated participants who used e-cigarettes from participants who did not use e-cigarettes.<sup>2</sup>

## **What did they find?**

Nine U.S. states/territories included in the study instated aerosol-free policies before 2016, while 47 states/territories did not; only about 1 in 10 participants lived in states with aerosol-free policies. Those who lived in states/territories with aerosol-free policies were [significantly](#) less likely to report current vaping and smoking than those in states/territories without aerosol-free policies. Respondents aged 18-24 were more likely to vape than those aged 25-59, but the researchers also found an [interaction](#) between age group and aerosol-free policy: aerosol-free policy predicted lower vaping rates in adults aged 25-59, but did not predict vaping rates in adults aged 18-24. However, being a current or former smoker was a much stronger predictor of e-cigarette use than state of residence (see figure).

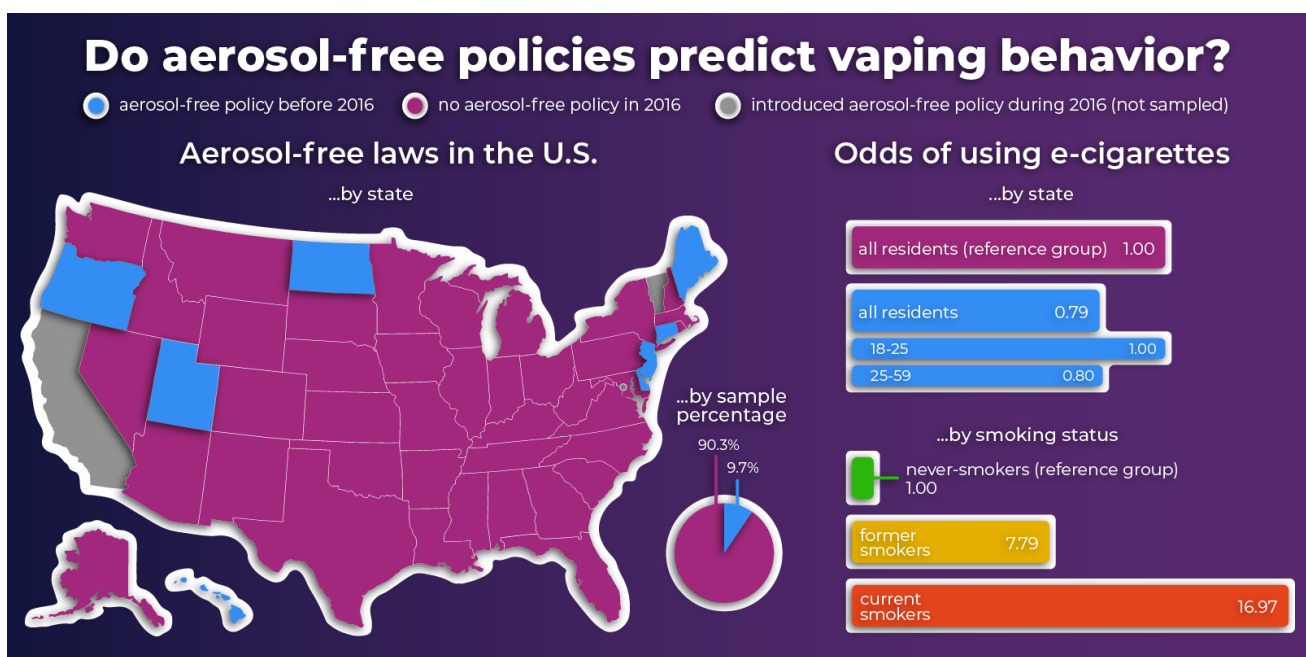


Figure. Left: U.S. states with and without aerosol free policies at time of data collection. States/territories with aerosol-free laws include Connecticut, Delaware, Hawaii, Maine, New Jersey, North Dakota, Oregon, Utah, and Puerto Rico (not pictured). Right: [Odds ratios](#) showing the likelihood of regularly using e-cigarettes, by residence in a state with or without public vaping policy (top) and by smoking history. Note that the effects of smoking history dwarf the effects of state. Click image to enlarge.

### Why do these findings matter?

There are two main takeaways from this study. First, statewide aerosol-free policies could reduce e-cigarette use in older adults, but not necessarily younger adults. Vaping is [more popular with younger consumers](#), who also [vape more often in areas where smoking is banned](#), and either [don't know the harms](#) of

vaping or [don't care](#). Therefore, this age group might resist regulations. Second, smoking history predicted e-cigarette use far better than U.S. state, suggesting that stricter regulation of traditional cigarettes and providing [viable methods to smoking cessation other than vaping](#) would result in a greater reduction in e-cigarette use, rather than just banning vaping in public. That being said, aerosol-free policies have other possible benefits other than reducing vaping prevalence, such as preventing the [renormalization of smoking](#) in public spaces.

### **Every study has limitations. What are the limitations in this study?**

These results are [cross-sectional](#), so [causality](#) cannot be determined; e-cigarette prevalence could influence policy, and/or vice versa, and/or an [unmeasured third variable](#) could influence this relationship. The researchers only studied statewide policies, but the relationship between regulations and vaping behavior could differ between municipalities within states as well.

### **For more information:**

[SmokeFree](#) offers tools and tips for quitting and maintaining abstinence from smoking tobacco. The [Centers for Disease Control and Prevention](#) offers information, tips, and tools about e-cigarettes and how to quit. For self-help tools, please visit The BASIS [Addiction Resources](#) page.

— Jamie Juviler

*What do you think? Please use the comment link below to provide feedback on this article.*

[1] The researchers excluded respondents aged 60 and older because not enough participants in this age group used e-cigarettes for proper analysis.

[2] In all analyses, the researchers [controlled](#) for sociodemographic variables including age, sex, race, education, and household income. They also accounted for [smoking prevalence by U.S. state](#) in 2016 and for clustering of participants by state in their regression models.