

AMERICANS' PERSPECTIVES ON E-CIGARETTES

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INTRODUCTION

A new poll of adults in the United States by *Stat* and Harvard T.H. Chan School of Public Health shows a majority of Americans believe electronic cigarettes, also called e-cigarettes, are harmful to the health of those who use them and an overwhelming majority favors basic regulations like warning labels and a minimum purchasing age.

E-cigarettes are battery-powered devices from which users inhale a water-based vapor containing nicotine and sometimes flavorings. Unlike traditional cigarettes, however, they do not contain tobacco. Originally patented in 2004¹, e-cigarettes have recently become embroiled in public health controversy as increasing sales have propelled them into an estimated \$3.5 billion industry in the United States.² Many worry that e-cigarettes may normalize smoking in public places³ — long considered a public health achievement — and little is known about the health effects of e-cigarettes' inhaled vapor⁴ — a mixture of water, nicotine and chemical additives. A study published in *JAMA Pediatrics* also found that using e-cigarettes may encourage teenagers to smoke tobacco in the future.⁵

E-cigarettes' saving grace has always been their purported safety, compared to tobacco cigarettes. E-cigarette manufacturers claim their products offer smokers an alternative to combustible cigarettes, avoiding the dangers that come with traditional tobacco.⁶ Public Health England, part of the UK's National Health Service, also encourages e-cigarette use as a means to wean current smokers off of tobacco. Their "Smokefree" website promotes a harm-reduction approach to e-cigarette use, stating, "e-cigarette use carries only around 5% of the risk of smoking."⁷

In the absence of conclusive scientific evidence regarding the safety of e-cigarettes, this survey sought to better understand what American adults think about e-cigarettes and whether or not the public supports proposed policy measures that would regulate their sale, ingredients and advertisement.

¹ Yamin CK, Bitton A, Bates, DW. "E-Cigarettes: A Rapidly Growing Internet Phenomenon." *Annals of Internal Medicine* 2010; 153(9): 607-609.

² Hiles SS. "Nicotine isn't the only hazard to be found in e-cigarettes." *Chicago Tribune*, September 20, 2015. Available online at: <http://www.chicagotribune.com/lifestyles/health/ct-ecigarette-hazards-20150918-story.html>

³ Rigotti NA. "e-Cigarette Use and Subsequent Tobacco Use by Adolescents." *JAMA* 2015; 314(7):673-674.

⁴ Ibid.

⁵ Blanding M, Drexler, M. "The E-Cig Quandary." *Harvard Public Health Magazine*, Spring 2015:14-27.

⁶ Electronic Cigarettes International Group. "Smoking Alternative." 2015. Available online at: <http://ecig.co/smoking-alternative/>

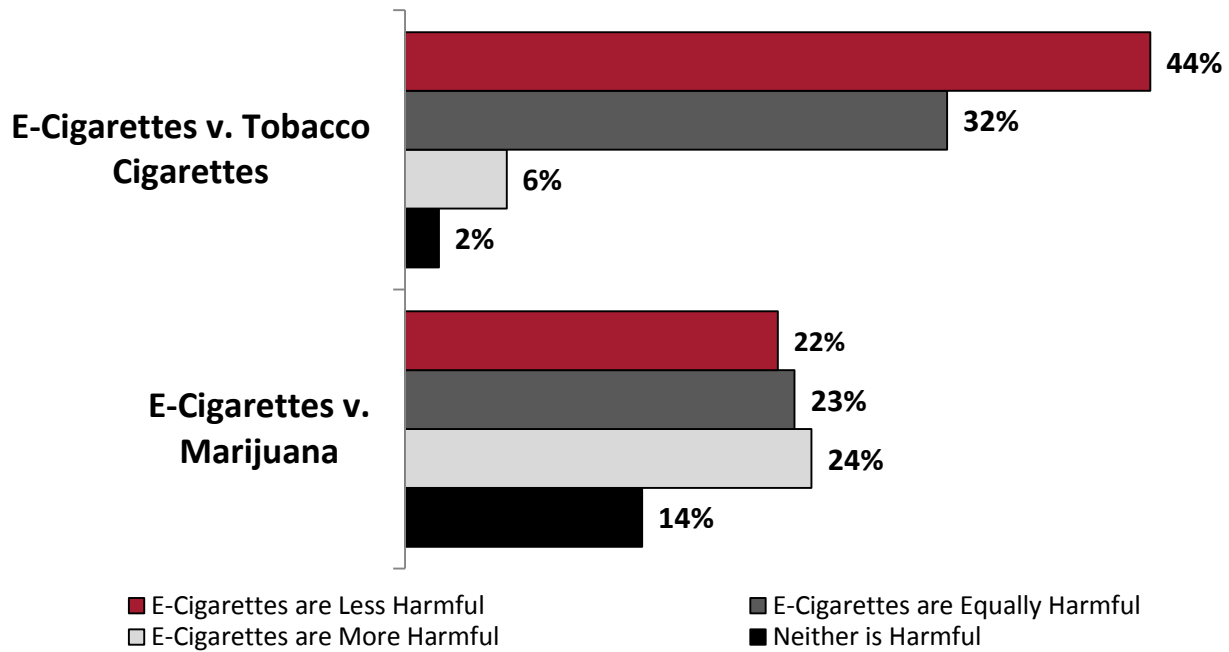
⁷ Smokefree NHS, Public Health England, Department of Health. "Electronic Cigarettes." Available online at: <http://www.nhs.uk/smokefree/help-and-advice/e-cigarettes>

PERCEIVED HARM

Due to their relative youth, research on the safety of e-cigarettes is far from conclusive. Nonetheless, nearly two-thirds (65%) of American adults believe electronic cigarettes are harmful to the health of people who use them — less than tobacco cigarettes, but more than marijuana. Whereas 96% of adults believe tobacco cigarettes harm the health of users, less than three in five (58%) Americans feel the same way about marijuana. Women (69%) are significantly more likely than men (60%) to believe e-cigarettes are harmful to the health of those who use them.

Figure 1 depicts how adults feel about e-cigarettes, as compared to tobacco cigarettes and marijuana. When asked to compare products, more than two in five (44%) people say e-cigarettes are less harmful than tobacco cigarettes and nearly one-third (32%) of people say they are equally harmful. Only two percent of adults believe neither type of cigarette is harmful. Respondents are starkly divided when it comes to marijuana, however. Nearly one-quarter (24%) of adults say e-cigarettes are more harmful than marijuana, but an almost equal proportion (22%) say e-cigarettes are less harmful than marijuana. Almost the same amount (23%) think e-cigarettes and marijuana are equally harmful, and 14% of adults do not believe either is harmful.

FIGURE 1: The perceived harm of e-cigarettes, as compared to tobacco cigarettes and marijuana.



PERCEIVED BENEFITS & RISKS

Survey respondents were told that some people believe the nicotine in e-cigarettes can help smokers reduce their use of tobacco products in the same way that nicotine gum or patches do, while others disagree and believe that e-cigarettes do not help people quit smoking tobacco. Given both sides of the argument, nearly one in two (47%) Americans do not believe e-cigarettes are effective when it comes to smoking cessation, while nearly two in five (38%) believe e-cigarettes are effective.

When asked whether they believe that using e-cigarettes makes teenagers who do not currently smoke tobacco cigarettes more or less likely to do so in the future, more than half (56%) of adults say they think e-cigarettes make teens more likely to smoke in the future, while one third (33%) report they do not think it makes a difference. Less than one in ten (6%) adults believes e-cigarettes make teenagers less likely to smoke tobacco in the future.

ATTITUDES TOWARD REGULATION

Table 1 depicts how American adults feel about proposed e-cigarette regulations, from those policies they most support to those they least favor. Americans overwhelmingly favor two types of basic regulations for e-cigarettes: a minimum purchasing age and warning labels. Nine in ten (90%) Americans say only people age 18 or over should be allowed to buy e-cigarettes, while 94 percent of adults believe e-cigarette packages should contain warning labels stating they contain nicotine.

When asked whether people should be allowed to use e-cigarettes indoors in places like restaurants, workplaces and shopping malls, more than two-thirds (69%) of people feel this should be prohibited, while just over one-quarter (26%) support letting people use e-cigarettes indoors.

The issue of e-cigarette taxation yielded a similar level of agreement. Respondents were told that tobacco cigarettes are taxed at a higher rate than other products by federal and state governments and asked whether the government should tax e-cigarettes like it taxes tobacco cigarettes. Just under two-thirds (64%) of adults feel e-cigarettes should be taxed like tobacco cigarettes, while just under one-third (32%) did not support such taxes.

When asked whether the government should prohibit the advertisement of e-cigarettes on TV like it prohibits the TV advertisement of tobacco cigarettes, just over three in five (61%) adults support this prohibition, while more than a third (35%) oppose it.

Liquid nicotine flavoring restrictions were the most contentious piece of proposed legislation among American adults, according to the poll. Respondents were told that several companies sell candy- and fruit-flavored liquid nicotine for e-cigarettes, and that some people believe these flavors target teenagers while others believe they appeal to people of all ages, including adults. When asked whether the sale of flavored liquid nicotine cartridges should be prohibited to everyone the results were almost even. Just under one half (48%) of adults believe flavored nicotine should not be prohibited, while a similar proportion (46%) believe they should be.

In all of these cases — the indoor use ban, equitable taxation, TV advertising, and liquid nicotine flavoring — no significant differences were observed between self-identified Republicans and Democrats, between men and women, or between high-income and low-income Americans.

TABLE 1: Attitudes about e-cigarette regulation, from most support to least support

Attitude or belief	Support %
E-cigarette packages should include warning labels stating that they contain nicotine	94
Only people age 18 and over should be allowed to buy e-cigarettes	90
People should not be allowed to use e-cigarettes indoors in places like restaurants, workplaces and shopping malls	69
Federal and state governments should tax e-cigarettes like they currently tax tobacco cigarettes	64
The government should prohibit the advertisement of e-cigarettes on TV like it prohibits the advertisement of tobacco cigarettes	61
The sale of flavored liquid nicotine cartridges to anyone should be prohibited	46

PROFILE OF E-CIGARETTE USERS

Nearly one in four (23%) Americans say they either currently use e-cigarettes or have tried them in the past, a finding that aligns with a June 2015 Reuters / Ipsos poll which found that one in four adults either currently used e-cigarettes or have tried them in the past.⁸ Our poll finds that “ever-users” are significantly more likely to be between the ages of 18-29, whereas “never-users” are more likely to age 65 or older. Those with at least a college degree are also much less likely to have ever tried e-cigarettes than their less-educated counterparts; however, there were no significant differences by income.

Table 2 depicts differences in attitudes regarding the use and regulation of e-cigarettes among ever-users and never-users. Those who have ever used e-cigarettes are significantly less likely than never-users to believe that e-cigarettes and marijuana are harmful to the health of people who use them, and more likely to believe in the benefits of e-cigarettes when it comes to smoking cessation. Not surprisingly, ever-users are also significantly less likely to support e-cigarette regulations, including prohibiting the sale of flavored liquid nicotine, banning indoor use, restricting TV advertising, and increasing taxes.

TABLE 2: Attitudes about the use and regulation of e-cigarettes, by use status

Attitude or belief	Support, total %	Support, have ever used e-cigarettes %	Support, have never used e-cigarettes %
E-cigarettes are harmful to the health of people who use them	65	51	69
Marijuana is harmful to the health of people who use it	58	42	63
E-cigarettes are effective at helping people quit smoking tobacco cigarettes	38	51	33
People should not be allowed to use e-cigarettes indoors in places like restaurants, workplaces and shopping malls	69	52	74
Federal and state government should tax e-cigarettes like they currently tax tobacco cigarettes	64	44	70
The government should prohibit the advertisement of e-cigarettes on TV like it prohibits the TV advertisement of tobacco cigarettes	61	49	66
The sale of flavored liquid nicotine cartridges to anyone should be prohibited	46	33	51

⁸ Ipsos & Thomson Reuters. “E-Smoking Poll.” May 19 - June 4, 2015. Available online at: <http://www.ipsos-na.com/download/pr.aspx?id=14594>

CONCLUSION

Even though the scientific community has yet to reach a consensus regarding the risks and potential benefits of e-cigarette use, our poll finds that the public appears to have mostly made up its mind: A vast majority of American adults believe that e-cigarettes are fundamentally harmful to the health of people who use them, and nearly all adults agree that e-cigarettes should not be sold to minors and that e-cigarette packaging should include warning labels about nicotine. These views span traditional divisions along racial, ethnic, income and party lines.

Furthermore, more than two-thirds of adults favor a ban that would prohibit the use of e-cigarettes indoors, and more than three in five Americans favor taxation and TV advertisement restrictions that would regulate e-cigarettes like tobacco cigarettes. This widespread support for the regulation of e-cigarettes makes it a rare bipartisan issue for adults in the United States.

METHODOLOGY

This poll was conducted by *Stat* and Harvard T.H. Chan School of Public Health. Representatives of the two organizations worked closely to develop the survey questionnaire and analyze the results of the poll. *Stat* and Harvard T.H. Chan School of Public Health paid for the survey and related expenses.

The project team was led by Robert J. Blendon, Sc.D., Richard L. Menschel Professor of Health Policy and Political Analysis at Harvard T.H. Chan School of Public Health, and Gideon Gil, Managing Editor, Enterprise and Partnerships of *Stat*. Harvard research team also included John M. Benson, Caitlin L. McMurtry, and Justin M. Sayde.

Interviews were conducted with a nationally representative sample of 1,014 randomly selected adults, ages 18 and older, via telephone (including cell phones and landlines) by SSRS of Media, Pennsylvania. Interviews were conducted in English and Spanish. The interviewing period was October 7-11, 2015. The data were weighted to reflect the demographics of the national adult population as described by the U.S. Census.

When interpreting these findings, one should recognize that all surveys are subject to sampling error. Results may differ from what would be obtained if the whole U.S. adult population had been interviewed. The margin of error is ± 3.7 percentage points.

Possible sources of non-sampling error include non-response bias, as well as question wording and ordering effects. Non-response in telephone surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population. To compensate for these known biases and for variations in probability of selection within and across households, sample data are weighted by household size, cell phone/landline use and demographics (sex, age, race/ethnicity, education, and region) to reflect the true population. Other techniques, including random-digit dialing, replicate subsamples, and systematic respondent selection within households, are used to ensure that the sample is representative.



Stat/Harvard T.H. Chan School of Public Health
Americans' Perspectives on E-Cigarettes

This survey was conducted for *Stat* and Harvard T.H. Chan School of Public Health via telephone by SSRS, an independent research company. Interviews were conducted via telephone (cell phone and landline) from October 7 - 11, 2015, among a nationally representative sample of 1,014 U.S. adults. The margin of error for total respondents is +/- 3.7 percentage points at the 95% confidence level. More information about SSRS can be obtained by visiting www.ssrs.com

For this next set of questions, I am interested in your opinion on products called electronic cigarettes, sometimes called e-cigarettes or e-cigs. They are battery-powered devices from which users inhale a water-based vapor containing nicotine and sometimes flavorings, but not tobacco.

EC-01. I am going to read you a list of products, and I would like you to tell me if you believe each is harmful or not harmful to the health of people who use them. What about (INSERT ITEM)...?

- a. Electronic cigarettes

Harmful	Not Harmful	Don't know/ Refused
65	23	12

- b. Tobacco cigarettes

Harmful	Not Harmful	Don't know/ Refused
96	2	2

- c. Marijuana

Harmful	Not Harmful	Don't know/ Refused
58	36	6

(Asked of those who believe electronic cigarettes and smoking tobacco cigarettes are both harmful to the health of people who use them)

EC-2a. Do you think using electronic cigarettes is more harmful or less harmful to a person's health than smoking tobacco cigarettes, or do you think they are equally harmful to a person's health?

**Q1a/1b/2a combo table
Total Respondents**

	%
E-cigs more harmful than tobacco cigarettes	6
E-cigs harmful, tobacco cigs not	*
Both harmful, e-cigs more harmful	6
E-cigs less harmful than tobacco cigs	44
Tobacco cigs harmful, e-cigs not	21
Both harmful, e-cigs less harmful	23
E-cigs and tobacco cigs both harmful equally	32
Neither e-cigs nor tobacco cigs are harmful	2
Don't know/Refused	16

(Asked of those who believe electronic cigarettes and smoking marijuana are both harmful to the health of people who use them)

EC-2b. Do you think using electronic cigarettes is more harmful or less harmful to a person's health than smoking marijuana, or do you think they are equally harmful to a person's health?

**Q1a/1c/2b combo table
Total Respondents**

	10/11/15
E-cigs more harmful than marijuana	24
E-cigs harmful, marijuana not	17
Both harmful, e-cigs more harmful	7
E-cigs less harmful than marijuana	22
Marijuana harmful, e-cigs not	8
Both harmful, e-cigs less harmful	14
E-cigs and marijuana both harmful equally	23
Neither e-cigs nor marijuana are harmful	14
Don't know/Refused	17

(Asked of half-sample; n=481)

EC-03. Some believe the nicotine in e-cigarettes can help people reduce their use of tobacco products in the same way that nicotine gum or patches do. Others disagree and believe that e-cigarettes do not help people quit smoking tobacco. In your opinion, are electronic cigarettes effective or not effective at helping people quit smoking tobacco cigarettes?

Effective	Not effective	Don't know/ Refused
38	47	15

(Asked of half-sample; n=533)

EC-04. Do you believe that using electronic cigarettes makes teenagers who do not currently smoke tobacco cigarettes more likely or less likely to do so in the future, or do you believe it does not make a difference?

More Likely	Less Likely	Does not make a difference	Don't know/ Refused
56	6	33	5

(Asked of half-sample; n=495)

EC-05. Do you believe that people under age 18 should be allowed to buy e-cigarettes, or do you believe that only people age 18 and over should be allowed to buy them?

Under age 18 should be allowed	Only people age 18 or over should be allowed	Don't know/ Refused
7	90	3

(Asked of half-sample; n=519)

EC-06. Several companies sell candy- and fruit-flavored liquid nicotine for e-cigarettes. Some people believe these flavors target teenagers, while others believe they appeal to people of all ages, including adults. Do you believe the sale of flavored liquid nicotine cartridges should or should not be prohibited to everyone?

Should be prohibited	Should not be prohibited	Don't know/ Refused
46	48	6

(Asked of half-sample; n=515)

EC-07. As you may know, tobacco cigarettes are taxed at a higher rate than other products by the federal and state governments. Do you believe the federal and state governments should or should not tax electronic cigarettes like they currently tax tobacco cigarettes?

Should tax	Should not tax	Don't know/ Refused
64	32	4

(Asked of half-sample; n=499)

EC-08. Do you believe e-cigarette packages should or should not include warning labels stating that they contain nicotine?

Should include warning	Should not include warning	Don't know/ Refused
94	4	2

(Asked of half-sample; n=492)

EC-09. Do you believe the government should or should not prohibit the advertisement of electronic cigarettes on TV like it prohibits the TV advertisement of tobacco cigarettes?

Should prohibit	Should not prohibit	Don't know/ Refused
61	35	4

(Asked of half-sample; n=522)

EC-10. Do you believe people should be allowed to use e-cigarettes indoors in places like restaurants, workplaces and shopping malls, or should e-cigarette use be prohibited in these places?

Should be allowed	Should not be allowed	Don't know/ Refused
26	69	5

(Asked of total respondents; n=1014)

EC-11. Do you currently use e-cigarettes, or have you ever used them before but do not use them now, or have you never tried e-cigarettes?

Currently use e- cigarettes	Used them before, but not now	Never tried them	Don't know/ Refused
4	19	76	1