State of Alaska Epidemiology Bulletin

Department of Health and Social Services
Valerie J. Davidson, Commissioner

3601 C Street, Suite 540
Anchorage, Alaska 99503 http://dhss.alaska.gov/dph/Epi

Division of Public Health
Jay C. Butler, MD, MPH, Chief Medical Officer and Director

Local (907) 269-8000
24 Hour Emergency (800) 478-0084

Editors:
Joe McLaughlin, MD, MPH
Louisa Castrodale, DVM, MPH

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Adolescent Electronic-Cigarette Use in Alaska, 2015

Background

Electronic- or e-cigarettes are battery-powered devices that typically provide doses of nicotine to the user in an aerosolized form. In addition to nicotine, e-cigarette cartridges also contain an aerosolizing compound such as propylene glycol and often a flavoring agent.

In Alaska, a person must be at least 19 years old to purchase e-cigarettes. There are, however, no current laws against the advertising and marketing of these products, and only a handful of communities across the state include e-cigarettes in their smoke-free ordinances (e.g., Bethel, Juneau, Palmer and Petersburg).

Between 2010 and 2013, e-cigarette use increased from 1% to 4% among Alaska adults.[1] Nationally, 13% of high school students reported using e-cigarettes in the past 30 days.[2,i] Statewide, representative estimates of e-cigarette use among Alaska adolescents have not been available previously. This *Bulletin* describes the estimated prevalence of e-cigarette use among Alaska adolescents.

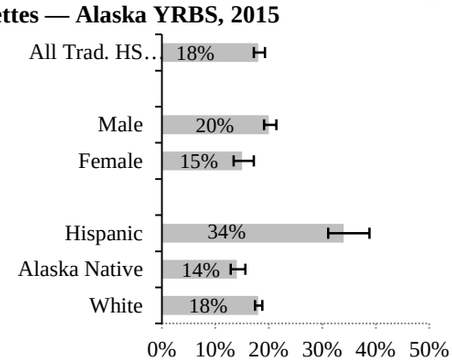
Methods

The Youth Risk Behavior Survey (YRBS) is a self-administered, biannual survey of randomly selected Alaska public school students in grades 9–12. The survey, created and updated by the Centers for Disease Control and Prevention (CDC), is administered between February and May in every odd-numbered year. The subject matter includes behaviors related to unintended injuries and violence, sexual activity, tobacco use, alcohol and drug use, diet, physical activity, and weight status. The 2015 sample included survey responses from 1,418 students in 41 Alaska traditional public schools; 95% confidence intervals were calculated to make comparisons within demographic groups.

Results

Data from the 2015 YRBS indicate that 31% of traditional high school students in Alaska reported using one or more of the following tobacco products in the past 30 days: e-cigarettes (18%), smokeless tobacco (12%), cigarettes (11%), or cigars (7%). In addition, 36% of high school students reported *ever* using e-cigarettes. Statistically significant differences in *current* (last 30 days) e-cigarette use were seen by sex (males were more likely to currently use compared to females, $p<.05$) and race (Hispanic students were more likely to currently use compared to either Alaska Native or White students, $p<.05$; Figure). No statistically significant differences were seen by age or grade.

Figure. Selected Characteristics of Traditional High School Students Who Currently (Last 30 Days) Use E-Cigarettes — Alaska YRBS, 2015



[i] *Readers should refrain from making comparisons between national and Alaska data given the difference in survey year and question-wording.*

Discussion

In 2015, almost one-third of traditional high school students surveyed reported currently using one or more tobacco products, and e-cigarettes were the most common type of tobacco product that students reported using.[ii] Current e-cigarette use was highest among males and Hispanic students. Because 2015 was the first year that e-cigarette use was asked on the Alaska YRBS, no prior year comparison data are available.

E-cigarettes are relatively new, unregulated products that are perceived by adolescents to be "safer" than traditional cigarettes because they don't require burning tobacco plant products.[3] However, they have not been thoroughly studied to determine the full extent of their impacts on short- or long-term health. Moreover, many e-cigarette e-liquids are flavored like Bubble Gum, Gummy Bears, and Skittles, which increases their appeal to youth.[4] Lastly, of particular concern, increasing e-cigarette use among youth might normalize e-cigarettes, promote introduction to cigarettes or other tobacco products, and by extension re-normalize tobacco use.[5]

The relationship between e-cigarette use and combustible tobacco use may be bidirectional, but recent research suggests e-cigarette use among adolescents increases their likelihood of using other combustible tobacco products.[6] Research is needed to determine future tobacco use patterns among youth e-cigarette users, and the extent to which youth use e-cigarette devices for substances like marijuana or other drugs.

Recommendations

1. Health care providers should screen their adolescent patients for e-cigarette use.
2. Health care providers should emphasize that e-cigarette use has not been thoroughly researched to know the short- or long-term effects. Moreover, users are at risk for developing an addiction to nicotine, which may put them at increased risk for using other tobacco products, which in some cases are less expensive than e-cigarettes.
3. Health care providers should recommend cessation counseling to e-cigarette users. In Alaska, counseling is available for free. Informational resources are available at: alaskaquitline.com or 1-800-QUIT-NOW.

References

1. Section of Epidemiology. Adult Electronic-Cigarette Use in Alaska. *Bulletin* No. 17, August 20, 2015. Available at: http://www.epi.alaska.gov/bulletins/docs/b2015_17.pdf
2. CDC. Tobacco use among middle and high school students—United States, 2011–2014. *MMWR* 2015;64(14):381-5.
3. Ambrose BK, Rostron BL, Johnson SE, et al. Perceptions of the relative harm of cigarettes and e-cigarettes among U.S. youth. *Am J Prev Med* 2014;47(2S1):S53-S60.
4. Zhu SH et al. Four hundred and sixty brands of e-cigarettes and counting: Implications for product regulation. *Tobacco Control* 2014; 23(S3): ii3-ii9.
5. Bunnell RE, Agaku IT, Arrazola RA, et al. Intentions to smoke cigarettes among never-smoking US middle and high school electronic cigarette users: National Youth Tobacco Survey, 2011-2013. *Nicotine Tob Res* 2015;17(2):228-35.
6. Leventhal AM et al. Association of electronic cigarette use with initiation of combustible tobacco product smoking in early adolescence. *JAMA* 2015; 314(7): 700-707.

[ii] *Data from the 2014 National Youth Tobacco Survey indicate e-cigarettes were the most commonly used tobacco product among high school students nationwide.*

(Contributed by Jeff May and Andrea Fenaughty, PhD, Section of Chronic Disease Prevention and Health Promotion.)