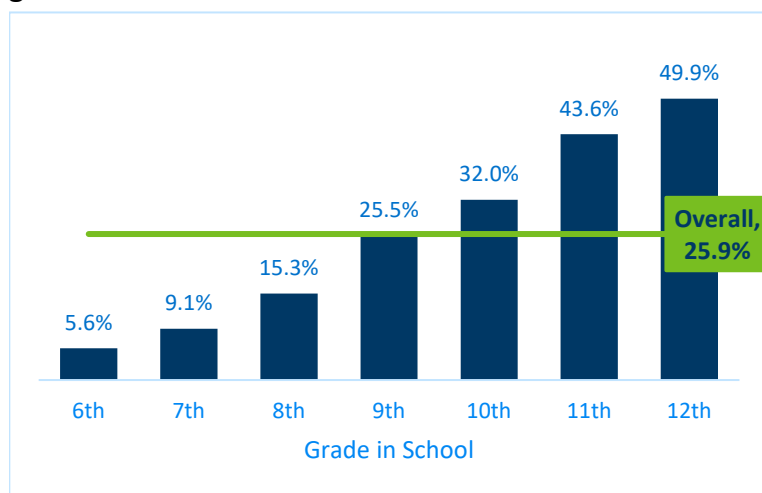


Which Minnesota Teens Try Vaping?

The 2017 Minnesota Youth Tobacco Survey (MYTS) revealed that one in four middle school and high school students in Minnesota had tried e-cigarettes (teens call it vaping or juuling).ⁱ Half of high school seniors reported having tried e-cigarettes at least once (**Figure 1**).

Figure 1. Percent of students that tried an e-cigarette, by grade in school



The latest e-cigarettes are made with sleek, customizable designs, deliver cigarette-like levels of nicotine, and come in fruity and candy-like flavors that appeal to youth (**Figure 2**). The growing popularity of e-cigarettes among Minnesota’s youth caused the first rise in overall tobacco use since the first MYTS in 1998.

Which teens try e-cigarettes? This data brief demonstrates that teens whose environments put them at risk for use of e-cigarettes are more likely to try them.

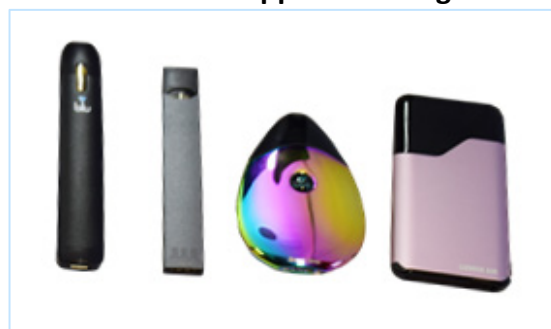
THE PROBLEM WITH TEEN VAPING

E-cigarettes contain nicotine, and no amount of nicotine is safe for youth.^{xvii}

Nicotine exposure puts youth at risk for lasting deficits in attention, learning, and memory, and may increase their susceptibility to addiction to other substances.ⁱⁱⁱ

In addition, youth who use e-cigarettes are two times more likely than non-users to start using conventional cigarettes in the future.^{xviii}

Figure 2. Newer e-cigarettes more closely resemble school supplies than cigarettes



Teens who are highly exposed to advertising are more likely to try vaping

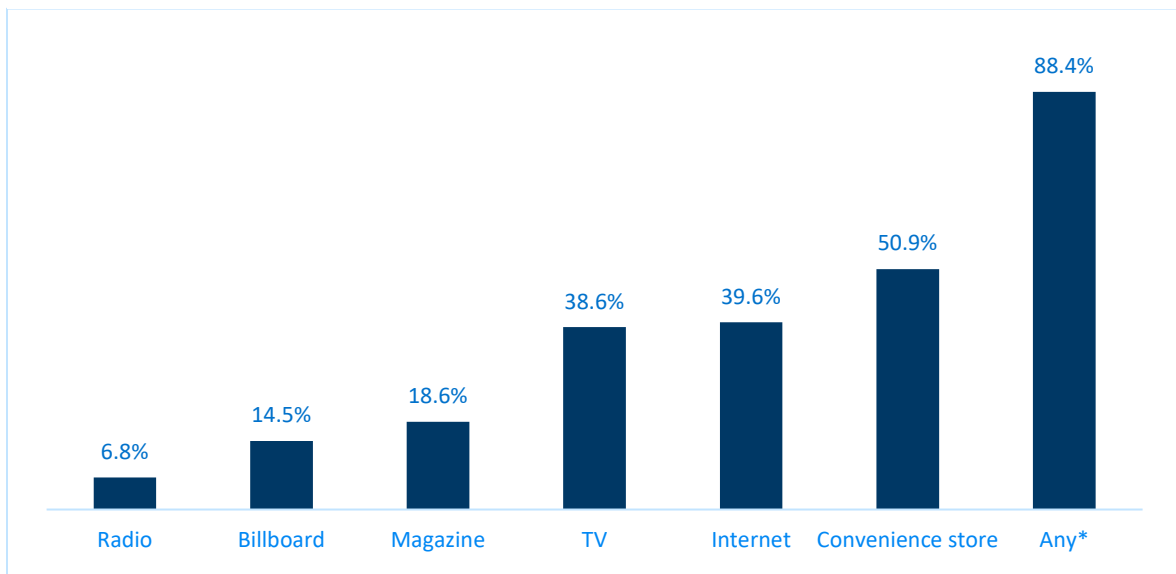
Expenditures for e-cigarette advertising have rapidly accelerated in recent years. Manufacturers spent more than \$125M on advertisements in 2014, not including expenditures for retail marketing, social media, and sponsored events,ⁱⁱ which are essential components of the industry’s marketing strategy.ⁱⁱⁱ

Ads for newer brands of e-cigarettes promote kid-friendly flavors and use the same themes of sex, independence, and rebellion that tobacco companies have effectively used to market conventional cigarettes to young people.ⁱⁱⁱ Successful advertising increases awareness of and stimulates interest in products, so it is not surprising that research confirms that exposure to manufacturers’ ads can increase interest in using e-cigarettes.^{iv} Correlational studies show that teens who report extensive exposure to e-cigarette ads are more likely to vape.^{v,vi}

Minnesota students reported a great deal of exposure to e-cigarette advertising. In 2017, nearly nine in ten students (88.4 percent) encountered promotions or advertising for e-cigarettes in the past 30 days in one or more channels (for example, in stores or on the Internet) (**Figure 3**).

In addition, 23.2 percent of students reported frequent exposure to e-cigarette ads online (student sees ads sometimes, most of the time, or always when online); 42.3 percent reported frequent exposure to e-cigarette ads in stores.

Figure 3. Percent of students that reported seeing an ad for e-cigarettes, by source of ad



* “Any” refers to the six sources in the survey: radio, billboard, magazine, TV, internet, or convenience store.

WHICH MINNESOTA TEENS TRY VAPING

Students who encountered advertising for e-cigarettes were more likely to have tried e-cigarettes than those who had not, and those who encountered ads across many channels (at least 5 of 6) were the most likely to have tried them (**Figure 4**). Similarly, more students had tried vaping if they had been frequently exposed to e-cigarette advertising when they were online or in stores (**Figure 5**).

Figure 4. Percent of students that tried e-cigarettes, by number of channels encountered e-cig ads.

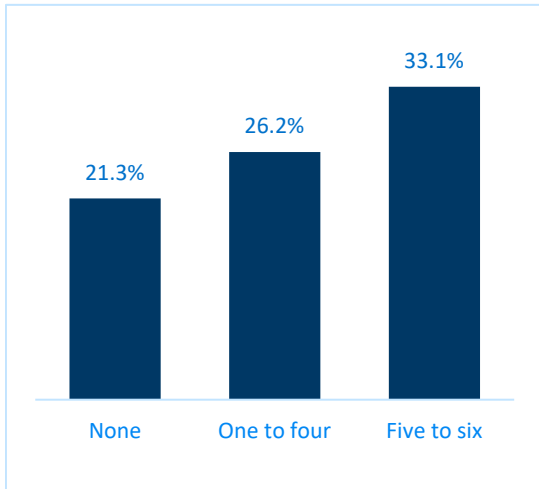
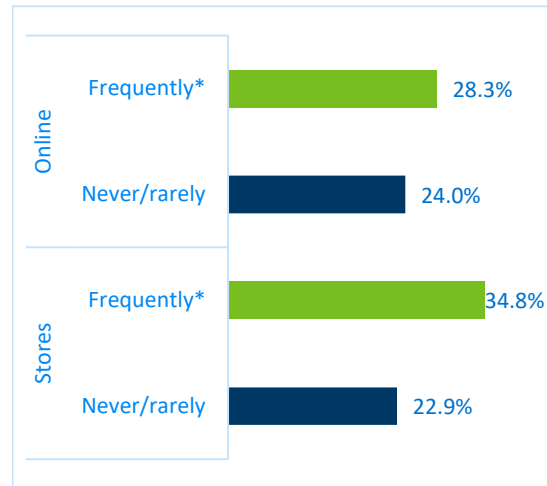


Figure 5. Percent of students that tried e-cigarettes, by how often encountered e-cig ads online or in stores



* Sometimes, most of the time, or always

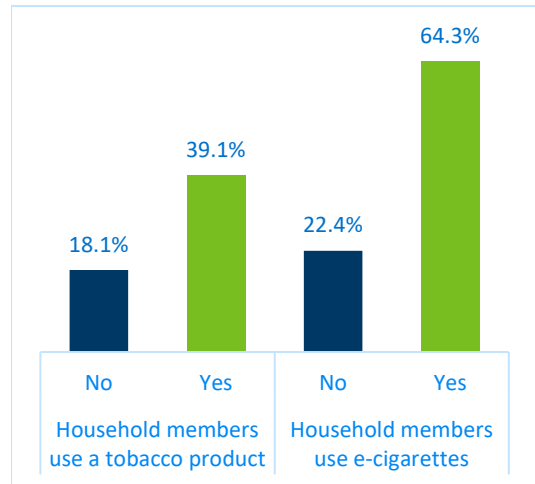
Teens who live with someone who vapes are more likely to try vaping

Research shows that teens and young adults whose family members use tobacco are more likely to use tobacco themselves.^{vii, viii, ix} Parents, siblings, and other household members who use tobacco products may unintentionally encourage tobacco use among teens by modeling the behavior. In addition, household members who use tobacco products give teens greater access to these products by having them in the home.

In 2017, 37.7 percent of students in Minnesota (an estimated 160,000 teens) reported that they live with someone who uses a tobacco product; 8.6 percent reported a household member uses e-cigarettes, specifically.

Consistent with previous studies, more Minnesota students who live with tobacco users reported trying e-cigarettes than those whose households are tobacco-free. More than twice as many students (39.1 vs. 18.1 percent) reported trying e-cigarettes if a household member uses a tobacco product (Figure 6). The association is even stronger if the household member uses e-cigarettes; nearly three times as many students tried e-cigarettes if a household member uses e-cigarettes (64.3 vs. 22.4 percent) (Figure 6).

Figure 6. Percent of students that tried e-cigarettes, by household members' use of tobacco products



Teens whose best friends vape are more likely to try vaping

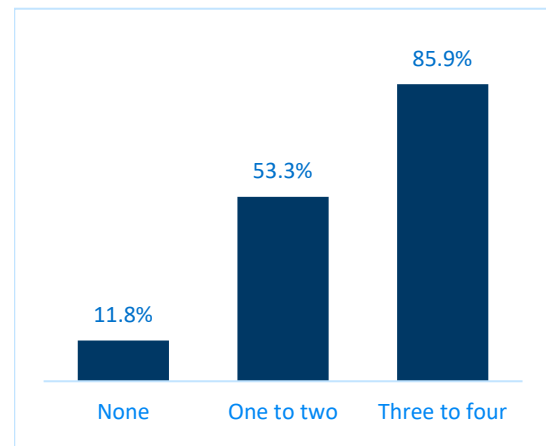
Adolescence is the period where the influence of peers and friends becomes increasingly important. This period is also characterized by increased interest in trying new things, often without adequate consideration of the consequences.^x These factors contribute to experimentation with substances during adolescence,^{xi} including e-cigarettes.^{xii}

Teens who believe many people their age use tobacco or their friends would approve of them using tobacco are more likely to use tobacco.^{xiii} Less is known about the impact of similar social influences on the use of e-cigarettes specifically, but several studies show that teens (and young adults) who report that their friends use e-cigarettes or would approve of their use are more likely to try or regularly use e-cigarettes.^{xiv,xv}

To measure peer influences on adolescent e-cigarette use, the 2017 MYTS asked students to report how many of their four best friends use e-cigarettes; 8.0 percent of middle school students and 24.6 percent of high school students reported at least one best friend uses them.

The percentage of students that tried e-cigarettes was strongly associated with the number of best friends that use e-cigarettes. Only 11.8 percent of students tried e-cigarettes if none of their best friends use them. Among

Figure 7. Percent of students that tried e-cigarettes, by number of four closest friends who use e-cigarettes.



those who reported one or two best friends use them, 53.3 percent of students had tried e-cigarettes. A startling 85.9 percent of students had tried e-cigarettes if the majority of their best friends use them (**Figure 7**). This strong association between the number of friends who vape and vaping initiation is alarming, because the number of Minnesota students that vape has risen rapidly and may continue to rise with the availability of easy-to-conceal e-cigarettes that deliver cigarette-like levels of nicotine in kid-friendly flavors.^{xvi}

Summary

The 2017 MYTS revealed that one in four Minnesota students had tried e-cigarettes. Teens who use e-cigarettes risk nicotine addiction and harm to their developing brains. To help reduce the number of students that try e-cigarettes, public health interventions must address the factors that may be influencing or enabling students to try them. According to the 2017 MYTS, students in Minnesota who tried e-cigarettes were exposed to more advertising and were around others who use e-cigarettes. Advertising restrictions and raising the legal age to purchase (a policy known as "Tobacco 21"), and other interventions targeting social use that have effectively reduced conventional tobacco use could be expanded to minimize the threat of e-cigarettes for Minnesota's youth.

Suggested citation: Helgertz, S. R. (2018). *Which Minnesota teens try vaping?* Saint Paul, MN: Minnesota Minnesota Department of Health Center for Health Statistics.

For questions, to request Youth Tobacco Survey data, or to obtain this document in a different format please contact the Minnesota Center for Health Statistics.

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