

# AHS students get the lowdown on e-cigarettes from the health unit

**M. McKinnon**

Just because it's less harmful (than smoking) doesn't mean it is harmless.

That was the central message in a discussion about vaping at the high school led by the Northwestern Health Unit's youth engagement coordinator, Catherine Kiewning on January 16. She lived up to that job title, fully engaging a big group of senior students during a one-hour session.

Vapes, also known as e-cigarettes, are nicotine delivery devices that heat a liquid to create an aerosol that is inhaled by the user. They were first created as an alternative to cigarettes and are still sometimes promoted as a safer alternative to smoking.

Vaping is actually a misleading name; e-cigarettes produce an aerosol, not a vapour. An aerosol - a suspension of fine solid or liquid particles in air - is distinctly different. Kiewning illustrated that with four student volunteers, spraying first a water vapour and then an aerosol on their hands. Unlike water vapour, the aerosol left a detectable residue on each of the volunteer's hands.

"When you inhale, you are getting a cocktail of chemicals that leave a residue on your lungs," she said. "There are no standards or regulations on these vaping products, so we don't know what chemicals you are taking in."

"Because you are not getting the products of combustion [you get when smoking cigarettes], they are perceived as safer. But they haven't been around long enough, and there haven't been enough studies - we don't know if they are safe."

What is known is that nicotine

is highly addictive, that it creates a self-perpetuating addiction (i.e., use creates a desire for more use),



that it has an impact on brain development (the brain isn't mature until age 25), and that nicotine leaves users more susceptible to addiction to other drugs.

It's also known that young people who use e-cigarettes are four times more likely to become cigarette smokers.

There are concerns about e-cigarette use and bronchiolitis obliterans ('popcorn lung'), a lung disease in which the bronchioles are left scarred and inflamed, making breathing difficult. A causal link has not (yet) been established, but research so far has been limited, and e-cigarettes have not been popular products long enough to assess the impact of long-term use.

There have also been over 150 reported cases of e-cigarette batteries exploding, burning and injuring users.

One of the biggest concerns is the way marketers have zeroed in on youth.

"It is clear the manufacturers are trafficking to youth, and addicting a new generation to nicotine," said Kiewning.

The Juul is a prime example. It's the latest version of the e-cigarette, although it looks more like a USB jump drive than a cigarette. (To charge the unit's battery you can plug it into a

computer.) It offers 7,700 flavours (pods of 'e-juice'), including a wide range of candy and fruit flavours.

"They look very cool, are very discrete, and don't produce a big cloud of smoke," she said.

They deliver a powerful dose using a nicotine salt for a smoother, more cigarette-like experience. A loaded Juul contains as much as nicotine as a typical pack of cigarettes or more.

A Juul starter pack costs about \$65, and purchasers must be at least 19 years old. (There are steep penalties for selling e-cigarette products to anyone under age 19.) Most youth buy on-line, where they can make a simple declaration that they are of legal age without providing identification.

While efforts are being made now to limit marketing efforts directed at youth, it is not clear if they will be enough. Kiewning asked the group of twenty-five students if they knew anyone under age nineteen who used e-cigarettes; everyone did.

In the 2017 COMPASS health status survey, about eleven percent of Canadian of students (grades seven to twelve) reported using an e-cigarette product in the past year. Two percent reported using them regularly. More had tried e-cigarettes (twenty-one percent) than had tried tobacco cigarettes (sixteen percent).

A similar American survey conducted by the Centers for Disease Control and Prevention in 2018 found almost twenty-one percent of high schoolers reported currently using e-cigarettes. It was most concerned about the year-over-year growth in use,

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# e-Cigarettes

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which the head of the Food and Drug Administration, Dr. Scott Gottlieb, said was reaching "epidemic proportions".

From 2017 to 2018, e-cigarette use increased seventy-eight percent among American high schoolers and forty-eight percent for middle schoolers.

Over 3.6 million high school and middle school students currently use e-cigarettes in the U.S.

Kiewning spent the full day at Atikokan High School and met with every class from grades seven through twelve.