

Don't treat e-cigarettes like cigarettes

1 October 2018, by Kristin Samuelson



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"Cigarette" might appear in the term "e-cigarette" but that is as far as their similarities extend, reports a new Northwestern Medicine report published Friday, Sept. 28, in the journal *Nicotine & Tobacco Research*. Assuming e-cigarettes are equal to cigarettes could lead to misguided research and policy initiatives, the paper says.

"Comparing cigarettes to e-cigarettes can give us a false sense of what dangers exist because it misses the gap in understanding how people use them and how they can make people dependent," said first author Matthew Olonoff, a Ph.D. student at Northwestern University Feinberg School of Medicine. "Before we start making policy changes, such as controlling [nicotine](#) or flavor options in e-cigarettes, we need to better understand what role these unique characteristics have."

The commentary distills articles and published studies that compare e-cigarettes to cigarettes and supports the importance of investigating e-cigarettes as a unique nicotine delivery system. It was published less than a month after the U.S. Food and Drug Administration declared youth vaping an epidemic.

"There are enough key differences between cigarettes and these products, especially newer-generation devices, to show that they are not interchangeable [nicotine delivery](#) systems," Olonoff said.

Key differences between the products include:

- The amount of nicotine in e-cigarettes can vary widely, which doesn't provide enough consistency for researchers who study the device and smokers' behavior.
- E-cigarette nicotine is ingested by vaping a liquid.
- The ability to stop and restart e-cigarettes allows far more variability in intermittent use and nicotine dosing compared to a traditional cigarette.
- The teen-friendly marketing and technology offered in e-cigarettes makes them more attractive than traditional cigarettes.
- E-cigarettes are allowed in areas where cigarettes are prohibited.

Teens are at greatest risk because e-cigarette use and marketing is on the rise.

"Teens could potentially be getting addicted to something dangerous and harmful to their health," Olonoff said. "The only way we'll know if this is true is to study e-cigarettes as if they're their own unique device."

Researching e-cigarettes

"From a research perspective, when we call it a 'cigarette,' we know how many puffs are typically in a cigarette, how people use it, the amount of nicotine in it," Olonoff said. "Even though it has the word 'cigarette' in it, e-cigarettes are not the same thing."

To help alleviate this inconsistency, the National Institute on Drug Abuse [in March 2018 introduced a standardized research-specific e-cigarette](#) for researchers to purchase. The device allows every

researcher to study the same e-cigarette so that the chemical components (nicotine, formaldehyde, etc.) are consistent, as is the number of puffs it takes to finish the e-cigarette. Olonoff's commentary encourages researchers to use these for consistency across all research.

Policy initiatives and e-cigarettes

E-cigarettes have been commercially available since the mid-2000s, Olonoff said. The technology has been advancing rapidly, which makes it nearly impossible to set up-to-date policy initiatives.

When e-cigarettes were introduced, marketing campaigns suggested they could be used to curb cigarette use. But years later, this claim is still unsubstantiated, Olonoff said.

Teens and e-cigarettes

The relative ease with which teens can use e-cigarettes—such as Juul selling a USB drive-like [e-cigarette](#)—might be enticing youths to think the devices are safe, Olonoff said.

"We've done so much to convince our youth that [cigarettes](#) and smoking are bad, and overall, it's been a relatively successful campaign when you look at how much smoking has decreased and continued to decrease," Olonoff said. "If teens use the device and they see it differently than the rest of the nicotine products, the researchers should adopt a different philosophical belief, too."

More information: *Nicotine & Tobacco Research* (2018). [DOI: 10.1093/ntr/nty205/5108552](https://doi.org/10.1093/ntr/nty205/5108552) , <https://academic.oup.com/ntr/advance-article/doi/10.1093/ntr/nty205/5108552>

Provided by Northwestern University

APA citation: Don't treat e-cigarettes like cigarettes (2018, October 1) retrieved 17 October 2019 from <https://medicalxpress.com/news/2018-10-dont-e-cigarettes-cigarettes.html>

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