



Children's Oral Health Network of Maine

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Testimony of Kalie Hess, Associate Director
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LD 1215: An Act to End the Sale of Flavored Tobacco Products and

LD 1174: An Act to Prohibit the Sale of Flavored Tobacco Products

Public Hearing: April 25, 2023 before the Committee on Health and Human Services

Senator Baldacci, Representative Meyer, and members of the Health and Human Services Committee, my name is Kalie Hess and I am the Associate Director of the Children's Oral Health Network of Maine (COHN/Network). Our Network includes providers of dental care and leaders in communities and educational institutions who work collaboratively to ensure that all children in Maine can grow up free from preventable dental disease. I am here on behalf of our Network to testify in support of LD 1215 and LD 1174.

The Children's Oral Health Network is working on improving and reforming Maine's oral health systems from multiple angles. It might come as a surprise to you to hear us testify on this bill, but it is well-known in the oral health community that vaping can have serious consequences for children's oral health. A combination of the carrier products and flavorings in e-cigarettes result in drastic changes to the oral microbiome that make it much more likely that people will suffer from cavities and other oral diseases. Please refer to the end of my testimony for more details about how this happens biologically.

Banning flavored tobacco is an issue of oral health equity. It is well-known that tobacco companies target children with e-cigarettes by using candy-like flavors to hook their next generation of people who are addicted to nicotine products. This means that our children are being targeted by the tobacco industry and the consequences are often a lifetime of nicotine dependency as well as poor oral health, which can affect educational and professional success, as dental issues are one of the top reasons children miss school.¹

Furthermore, you have heard advocates come in front of you to talk about Maine's oral health challenges and peoples' inability to get care because of our completely overwhelmed oral health "system." Children with MaineCare are consistently left behind in terms of being able to get oral health care, facing extremely long wait times and limited numbers of providers who will serve them, often waiting more than a year for routine care. About 60% of children consistently covered by MaineCare are not receiving routine preventive dental care compared to only about 40% of their commercially insured peers.² This means that children with MaineCare, who are by definition living in low-income families, and are disproportionately children of color, are often targeted by the tobacco industry because of their income or race and are then unable to get the care they need to manage the subsequent oral health effects of tobacco use.³

Maine's oral health reality is one of desperation right now. Patients and providers are struggling to get ahead of the extreme decay and disease facing individuals and communities. Organizations like ours are doing everything

¹ Jackson, S. L., Vann, W. F., Kotch, J. B., Pahel, B. T., Lee, J. Y. (2011, October). Impact of poor oral health on children's school attendance and performance. *Am J Public Health* 101(10), 1900-1906. [10.2105/AJPH.2010.200915](https://doi.org/10.2105/AJPH.2010.200915)

² <https://mainecohn.org/publications/databrief.pdf>

³ <https://files.kff.org/attachment/fact-sheet-medicaid-state-ME>



we can to get ahead of this situation but we must stem the tide of disease that is overwhelming our dental system, and implement policies like this one that have the potential to drastically improve oral health equity in the state.

Thank you for your consideration of my testimony. I'm happy to answer any questions.

How e-cigarettes affect oral health:

There are some more obvious consequences to oral health from vaping, like injuries to the mouth from batteries exploding. These injuries have resulted in broken jaws, permanent tooth loss, and soft tissue damage.⁴ All of this can impact your ability to eat healthy food – which can then worsen chronic oral health conditions in addition to the damage cause by the initial traumatic incident.

The less obvious consequences of vaping have to do with the chemicals in e-cigarettes. It is well-known that nicotine restricts blood flow to the gums, which can affect the mouth's ability to fight off infection and heal. This can lead to gum disease and tooth loss.⁵ However, even e-cigarettes without nicotine can have serious consequences for oral health because of how the chemicals in e-cigarettes affect the mouth's microbiome, or the delicate balance of bacteria in the mouth and saliva that work to maintain good oral health.^{6,7}

Propylene glycol, the carrier product in e-liquid used in e-cigarettes, breaks down orally into chemicals that are all toxic to tooth enamel and the soft tissue of the mouth. Additionally, propylene glycol attaches to water molecules in the mouth, which can lead to dry mouth, which further exacerbates oral health issues such as cavities and gum disease.⁸ The flavoring in e-cigarettes is made of vegetable glycerin and flavorings. When eaten, vegetable glycerin is not a concern to oral health. However, when vaped in combination with flavorings it causes the enamel of teeth to be weakened, an increase in the microbes that adhere to tooth enamel, and an increase in biofilm in the mouth. Because vegetable glycerin is viscous and sticky, it also causes the bacteria that cause cavities to stick to the teeth.⁵

What all of this means is that vaping creates a perfect storm in your mouth for the bacteria that causes cavities to thrive and cause irreparable damage to teeth and gums through several mechanisms. What this means for children is that they are being targeted with flavoring that can likely hook them on tobacco and nicotine as well as cause poor oral health outcomes for their entire life.

⁴ America's Tooth Fairy. (N.D.). *4 Ways Vaping Can Ruin Your Teen's Smile*.

<https://www.americastoothfairy.org/news/4-ways-vaping-can-ruin-your-teens-smile>

⁵ Precker, Michael. (2020, August 26). *Need another reason not to vape? Your oral health is at risk*. American Heart Association. <https://www.heart.org/en/news/2020/08/26/need-another-reason-not-to-vape-your-oral-health-is-at-risk>

⁶ Tomar, S. L., Fox, C. H., Connolly, G. N. (2015). Electronic Cigarettes: The Tobacco Industry's latest threat to oral health? *Journal of the American Dental Association* 146(9),651-653. <https://doi.org/10.1016/j.adaj.2015.07.002>

⁷ Kim S.A., Smith S., Beauchamp C., Song Y., Chiang M., Giuseppetti A., et al. (2018) Cariogenic potential of sweet flavors in electronic-cigarette liquids. *PLoS ONE* 13(9): e0203717. <https://doi.org/10.1371/journal.pone.0203717>

⁸ Kim S.A., Smith S., Beauchamp C., Song Y., Chiang M., Giuseppetti A., et al. (2018) Cariogenic potential of sweet flavors in electronic-cigarette liquids. *PLoS ONE* 13(9): e0203717. <https://doi.org/10.1371/journal.pone.0203717>