



Testimony of Kalie Hess, Associate Director Partnership for Children's Oral Health on LD 1550, An Act To End the Sale of Flavored Tobacco Products

Before the Joint Standing Committee on Health and Human Services
Public Hearing: May 7, 2021

Senator Claxton, Representative Meyer, and Members of the Committee on Health and Human Services: My name is Kalie Hess and I am the Associate Director of the Partnership for Children's Oral Health (Partnership). The Partnership is a collaborative effort, funded by philanthropic dollars, to build a broad network of individuals and organizations to create a Maine where no child suffers from preventable dental disease. I am here today to speak in support of LD 1550, An Act To End the Sale of Flavored Tobacco Products.

The Partnership 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.

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.¹ 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.²

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.^{3,4}

¹ 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>

² 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>

³ 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>

⁴ 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>



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.⁵

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.

It is important to recognize that the effects of vaping are further reaching than many realize. When considered with the fact that about 30% of children consistently covered by commercial dental insurance and 40% of children consistently covered by MaineCare do not receive preventive dental care in any given year,⁶ this issue becomes critical to helping children maintain what oral health they have. Dental issues are one of the top reasons children miss school, so it is also important to pass this bill to help children succeed in the classroom.⁷

We cannot expect children to be able to understand these risks and act accordingly; yet, we know that many of these flavorings are being targeted to youth because of their appeal and that they encourage youth use of e-cigarettes. We must act to prevent the myriad harms that youth are subject to through flavored e-cigarette products.

Thank you for your consideration of this testimony. I am happy to answer questions.

⁵ 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>

⁶ Partnership for Children's Oral Health. (2021) *Dental Care among Children with MaineCare and Commercial Dental Benefits*. <https://mainepcoh.org/publications/databrief.pdf>

⁷ 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)