

Rapid Response Characterization of New and Manipulated Tobacco Products  
Clark, Pamela  
3P50CA180523-02S1

Abstract:

The number of electronic cigarette (e-cigarette) consumers is growing rapidly, especially among young adults and former and current combustible cigarette smokers. Initial data indicate that e-cigarette flavors perceived as sweet are appealing to young adults and smokers trying to quit combustible cigarette smoking. Given that sweet flavors can be reinforcing, a product that combines them with nicotine delivery has great potential to both aid or impede smoking cessation efforts. Little is known about how sweet e-cigarette flavors influence initiation, maintenance, and cessation of electronic and combustible cigarette smoking. There is also little data on the identity and amounts of the chemicals inhaled due to the act of "vaping" an e-cigarette flavor perceived as sweet. Proposed is a supplement designed to address these gaps in keeping with our Center's overall goal to inform the FDA Center for Tobacco Products' ongoing efforts to understand product appeal and identify and measure chemicals that directly contribute to tobacco use-related disease in the U.S. population. In a cohort of established e-cigarette smokers, balanced equally between former and current combustible cigarette smokers, we will use quantitative scales to measure subjective responses to a panel of seven flavors in a popular commercial e-cigarette. Guided by these subjective responses, we will use powerful analytical techniques to separate the complex mixture that is inhaled during vaping, and the chemicals most likely associated with perceptions of sweetness will be identified and quantified. These compounds will then also be evaluated in terms of known toxicity. To determine if any of these chemicals are produced as a result of the vaping process, the e-cigarette liquids will be similarly characterized to further understand additives and ingredients associated with perceived sweetness. Finally, to determine how sweet flavors may be used by industry to mask the bitterness of nicotine, we will quantify the sweet-associated chemicals across varying nicotine strengths to determine how levels of these compounds may change with changing nicotine level.