DeVito et al. Supplemental Appendix

Design Details of Included Trials:

NCT03463837

This was a parallel group trial in which 90 adult smokers were randomised to one of six arms: four arms exclusively used different flavoured Juul 5% products, an active comparator arm smoked their standard combustible cigarettes, and a control arm abstained from smoking. The primary outcome was the change in biomarkers of exposure in urine or blood over the five day study period. Secondary outcomes included changes in ten additional biomarkers, three measures of nicotine absorption, product use, smoking urges, measures of product satisfaction and future intent to use, and any adverse events (AEs) or device malfunctions.

NCT03605641

This was an open label study to examine emissions across three different environments for a Juul device, a competitor device (Vuse solo), and conventional cigarettes. According to the registry entry, 46 adult smokers were assigned one of these arms and asked to vape or smoke across residential, office, and hospitality environments. The study lists 12 primary outcomes measuring specific constituents of exhaled breath (n=4) or room air following product use (n=8).

NCT03593239

This was an open label, randomized, crossover study intended to examine the nicotine pharmacokinetics of various Juul 1.7% and 5% nicotine salt products. Overall, 24 adult smokers were to be enrolled. It is unclear from the registry entry exactly how participants flowed through the trial and were assessed. The primary outcomes were four nicotine pharmacokinetic measures: concentration maximum (CMax), time to CMax, Cmax-baseline

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and Area Under the Curve (AUC), and AUC 1 hour-baseline of nicotine. The two secondary outcomes were measures of exhaled CO and user satisfaction.

NCT03596034

This was an open-label, single-arm study to assess "puff topography" (PT) in adult smokers using the "Juul 5% Electronic Nicotine Delivery Systems" product. The study enrolled 30 adult participants whose PT was evaluated on days 1 and 15. The primary outcome was various measures of PT including the duration, volume, peak flow rate, average flow rate, and inter-puff interval. There were seven secondary outcomes including self-reported use of the product and subjective measures of various smoking-related areas (e.g. nicotine dependence, smoking urges).

NCT03719391

This was an open label randomized crossover study intended to examine the nicotine pharmacokinetics of various Juul 5% nicotine salt products, Vuse Solo e-cigarettes, Nicorette 4mg nicotine gum, and standard combustible cigarettes in 67 adult smokers who were each exposed to each product. The primary outcome was vaguely specified as pharmacokinetic measurements of nicotine uptake in the plasma with details "provided in the SAP" however no statistical analysis plan could be located. Secondary measures included exhaled CO, measurements of blood pressure, heart rate, product use, safety/tolerability and various subjective scales (product evaluation, intent to use, nicotine withdrawal, direct effect, and product liking).