

Ploom® System: The Harm Reduction Opportunity for Heated Tobacco in the U.S.

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June 19, 2024



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— FAMILY OF COMPANIES —

Horizon Innovations LLC is a joint venture between Philip Morris USA Inc. and JTI (US) Holding Inc. for the commercialization of Ploom® in the U.S. market.

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PARTNERSHIP

Between JT Group and Altria

**to Bring Ploom
System to U.S.
Adults Who Smoke
Age 21+**

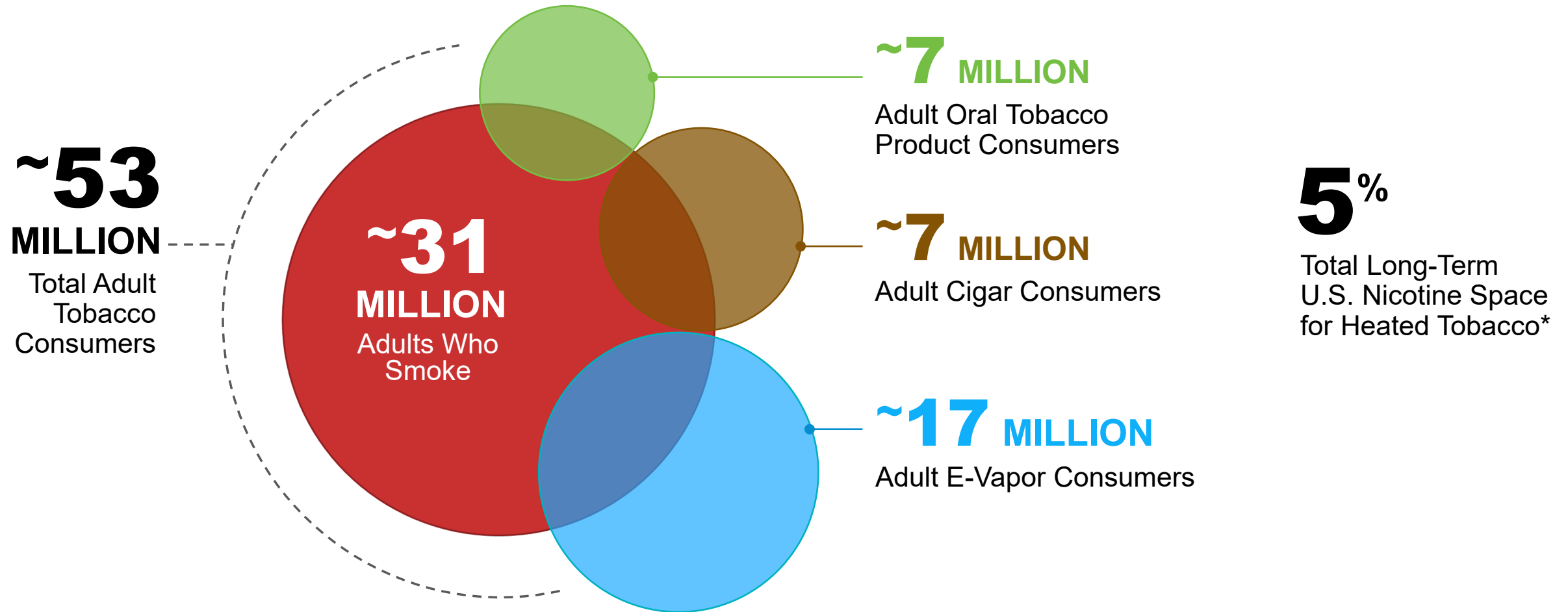


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Population of Adults Who Smoke in The U.S. is Still Sizeable



Source: Altria Client Services LLC Adult Tobacco Consumer Tracker (ALCS ATCT) – Q1, 2024

Overlaps do not represent real number of dual users

*Altria internal estimate



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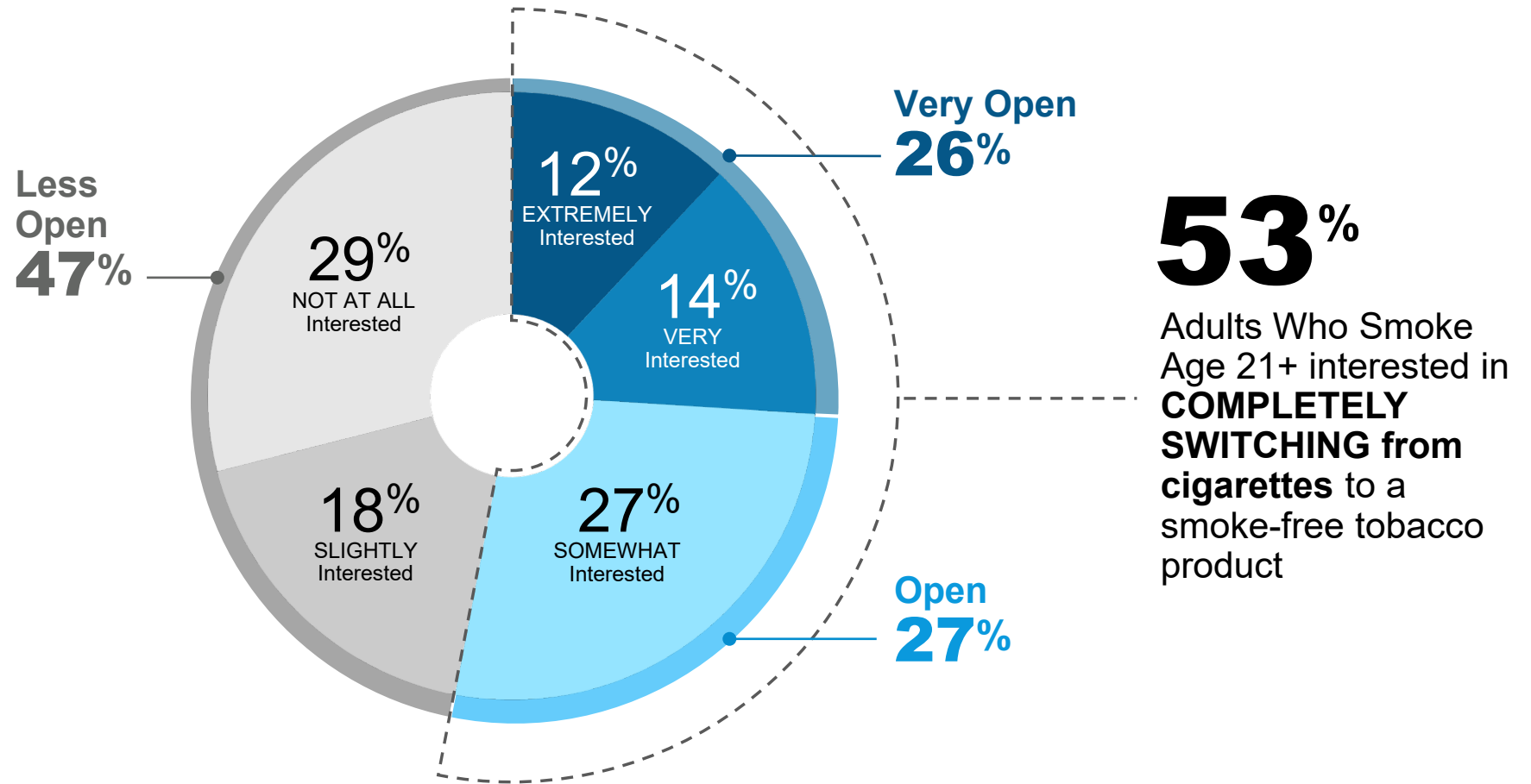
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There is Interest Among U.S. Adults Who Smoke in Completely Switching to Smoke-free Products

? ADULTS WHO
SMOKE 21-54
n=4037

In the next 6 months, how interested are you in **completely switching** all of your current cigarette usage occasions to a different tobacco product (such as e-vapor, smokeless tobacco, snus, or nicotine pouches)?



ALCS Consumer Market Insights Data.



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Conditions for Maximizing U.S. Tobacco Harm Reduction



Information

Adults who smoke deserve truthful and accurate information about nicotine and the relative risk among tobacco products



Flavors

Data shows that flavors play a key role to enable adults who smoke to switch to smoke-free products



Choice

Adults who smoke deserve access to a portfolio of smoke-free products authorized by the FDA



A Portfolio Approach to Tobacco Harm Reduction Supports Greater Choice



**Smokeless
Tobacco
Products**



**Modern Oral
Tobacco
Products**



**Heated
Tobacco
Products**



**E-Vapor
Products**



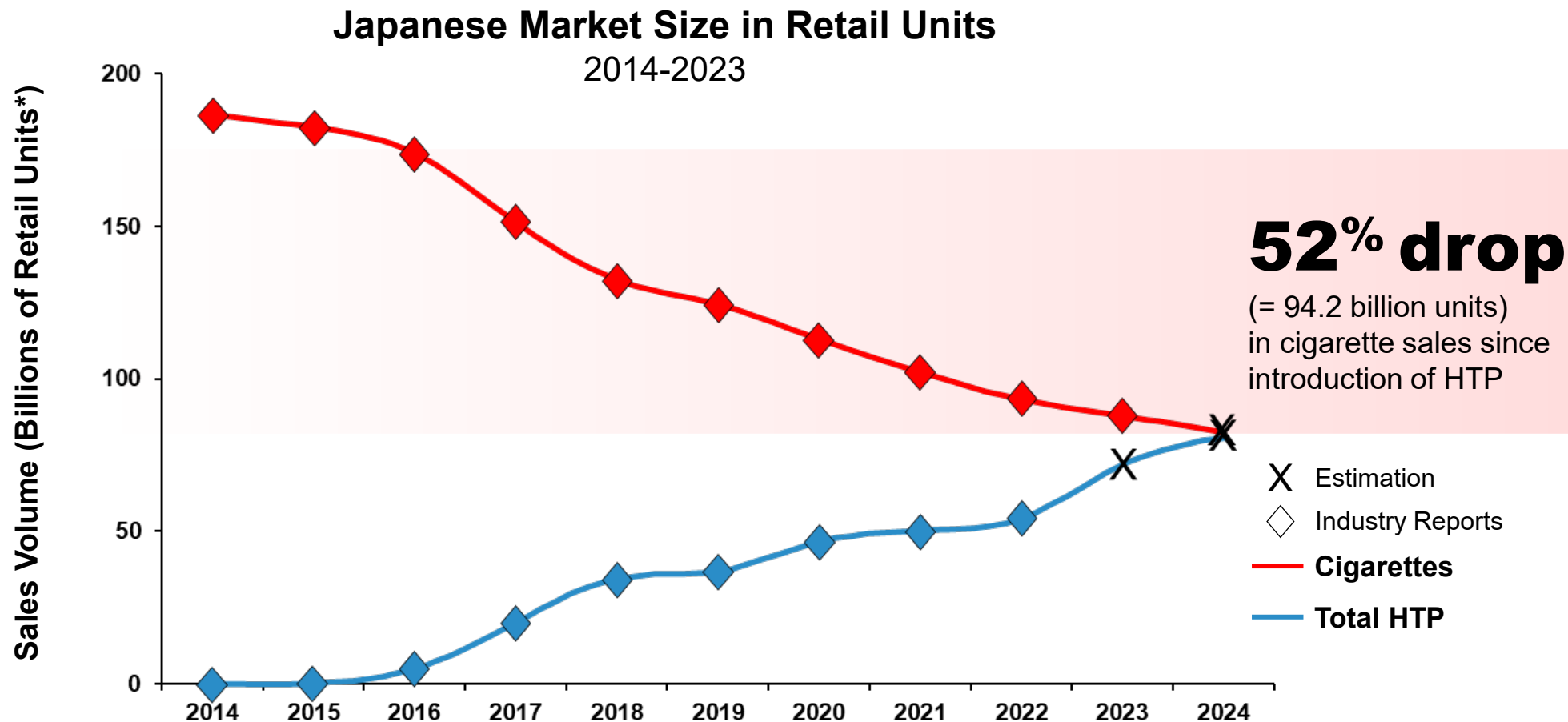
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*PLOOM® is currently unavailable for sale in the United States.

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When Given the Choice, Heated Tobacco Products (HTP) Emerge as a Smoke-Free Option for Adults Who Smoke



Data Source: Global State of Tobacco Harm Reduction, 2024 gstr.org.

*Individual cigarettes and HTP sticks

HTP=heated tobacco products.

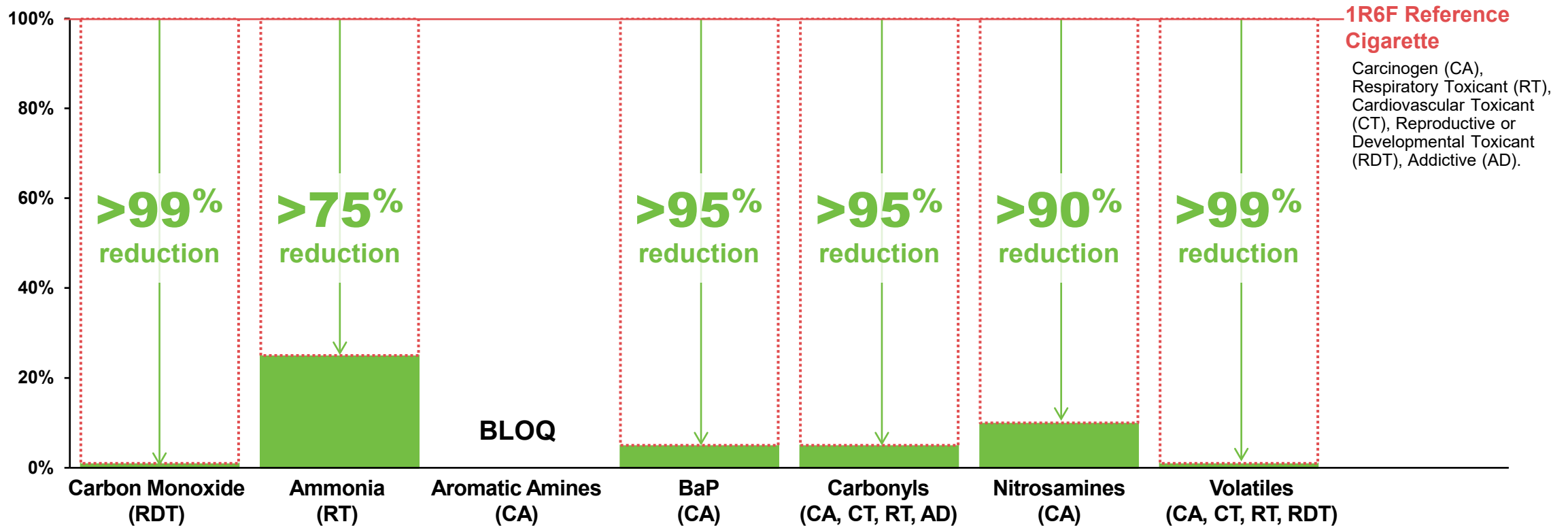


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HPHCs in Aerosols of Ploom® HTS Prototypes Substantially Reduced Compared to Combustible Cigarettes¹



¹HPHC= Harmful and Potentially Harmful Constituents in Tobacco Products and Tobacco Smoke. Disease association as identified by FDA in Established List, US FDA, Federal Register Vol. 77, April 2012. Select HPHCs. HTS=heated tobacco sticks. Four HTS prototype products tested using a modified Health Canada Intense Smoking Regime and data was averaged across prototypes. Comparisons presented on a *per unit basis* (1 unit = 1 stick). Normalized to literature values of HPHCs from a published combustible, reference cigarette (1R6F; [Jaccard et al. 2019](#)). Analysis excludes Nicotine. Ploom® Prototype test data received February 2023 from JTI.

Aromatic Amines: Average of 1-Aminonaphthalene, 2-Aminonaphthalene, 4-Aminobiphenyl

Carbonyls: Average of Formaldehyde, Acetaldehyde, Acetone, Acrolein, Propionaldehyde, Crotonaldehyde, and Methyl Ester Ketone (MEK)

Nitrosamines: Average of N'-nitrosanornicotine (NNN) and 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)

Volatiles: Average of 1,3-Butadiene, Isoprene, Acrylonitrile, Benzene, and Toluene (Only Toluene was not BLOQ)

Benzo[a]pyrene (BaP); Below Limit of Quantitation (BLOQ)

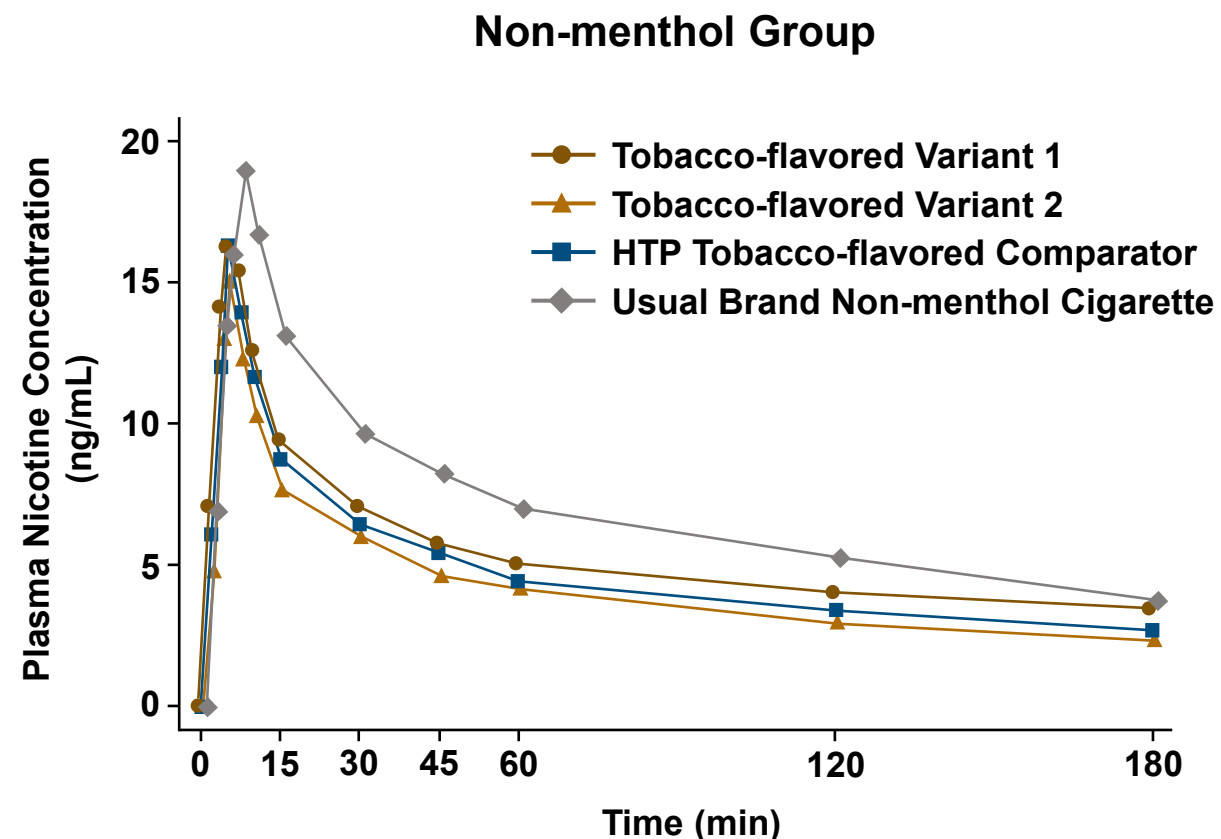
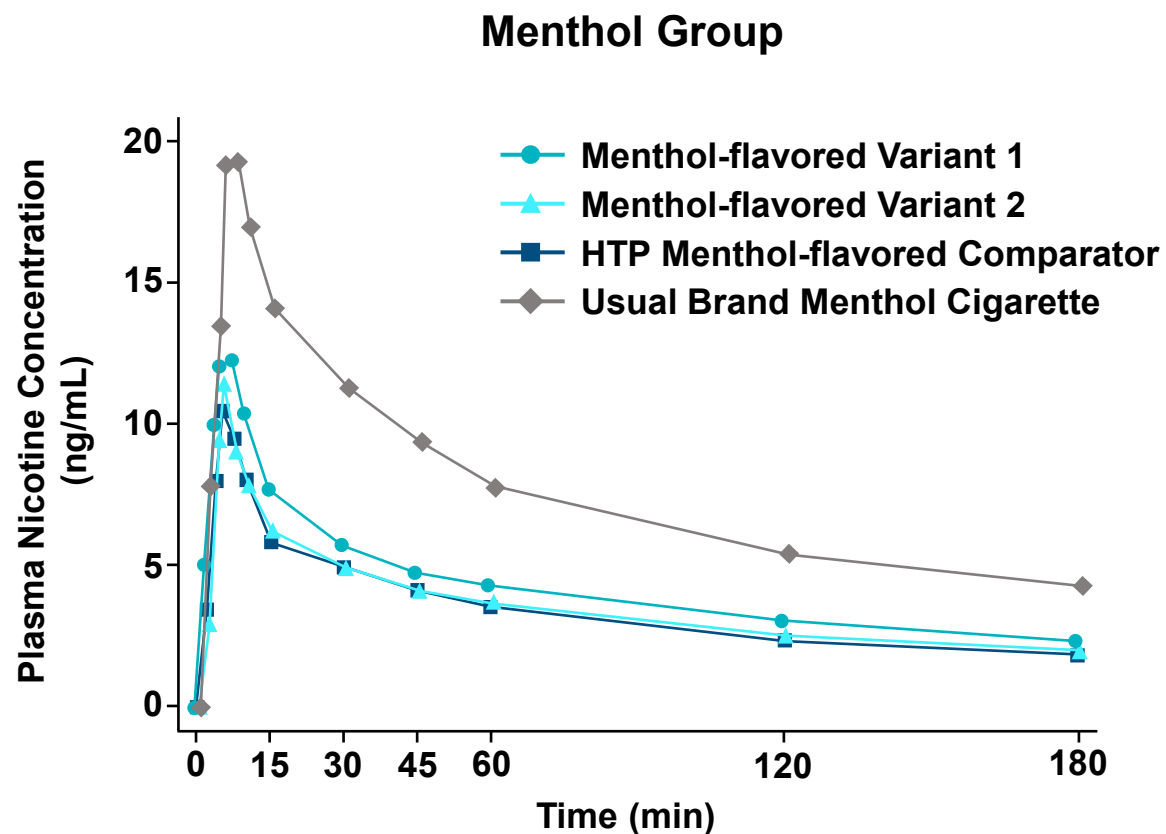


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Ploom® System Efficiently Delivers Nicotine to the Blood but Does Not Exceed that of Cigarettes



Graphs were generated using baseline adjusted arithmetic values of plasma nicotine concentrations at each time points.
HTP=heated tobacco product

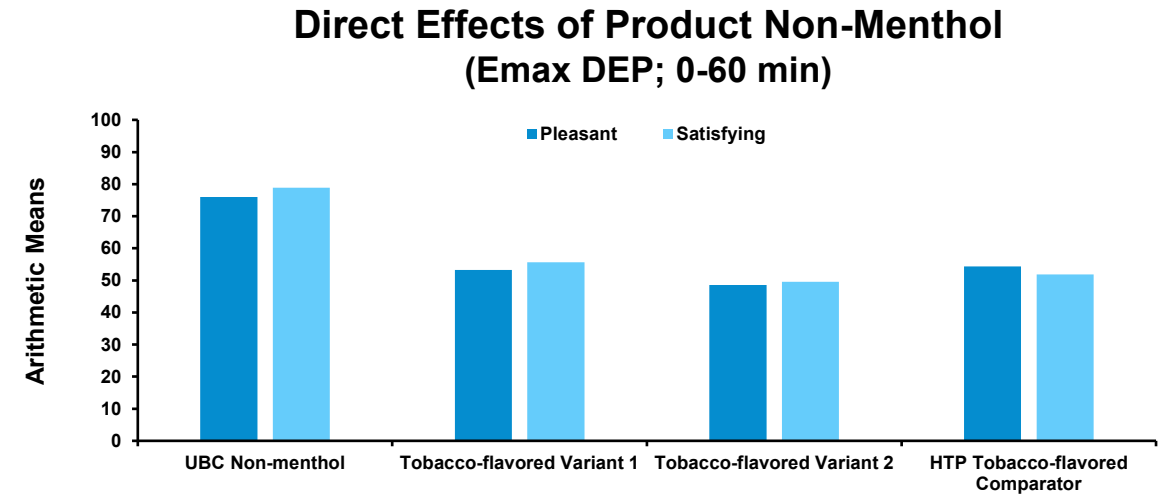
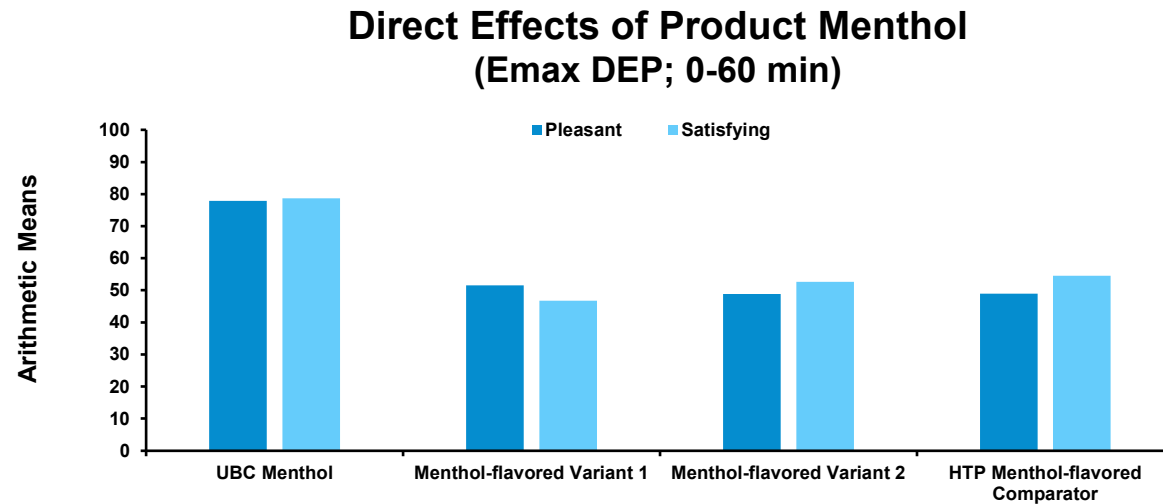
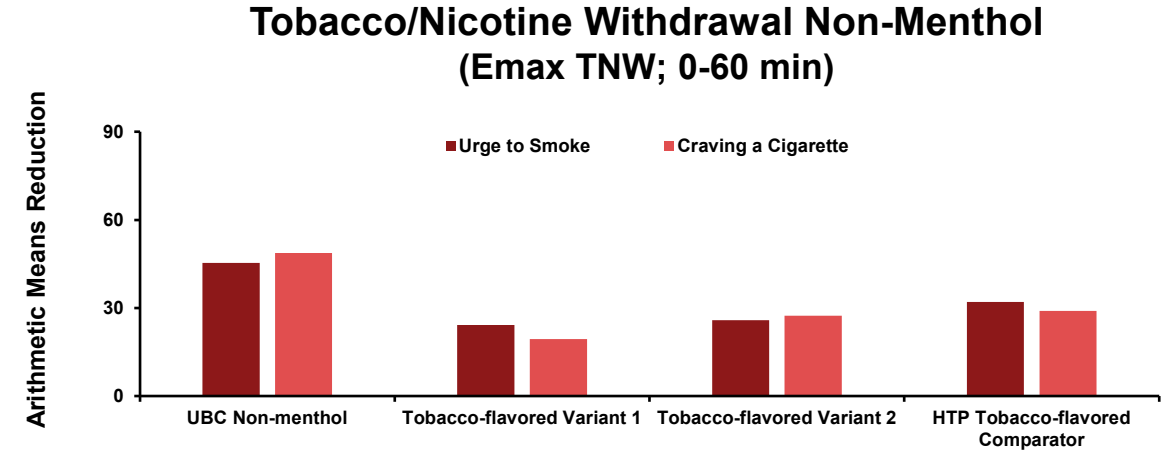
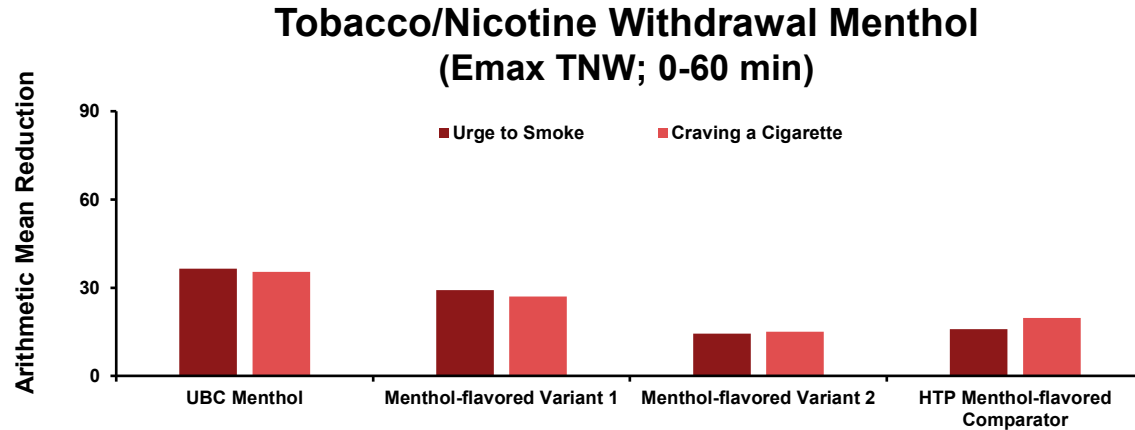


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Ploom® System May Be a Satisfying and Acceptable Alternative to Cigarettes that Reduces Urge to Smoke Cigarettes



Emax TNW= Maximum Reduction in Tobacco Nicotine Withdrawal; Emax DEP= Maximum Direct Effects of the Product; UBC=Usual Brand Cigarette; HTP=Heated Tobacco Product; Min: Minutes



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Publicly Available Data Demonstrates Low Rates of Use of HTP Among Youth



JAPAN – 0.3%

12-18-year-olds (junior and senior high-school students) reported current use of HTP¹

GERMANY – 0.3%

12-17-year-olds reported past 30-day use of HTP²

SWITZERLAND – 2.7%

14- and 15-year-olds reported using HTP at least once in the past 30-days³

DENMARK – 1.1%

15-17-year-olds ever use of HTP⁴

NETHERLANDS – 0.95%

13-17-year-olds ever use of HTP⁵

ENGLAND – 0.3%

11-18-year-olds current use of HTP⁶

¹ Otsuka, Y., et al. Comparison of the responses of cross-sectional web- and paper-based surveys on lifestyle behaviors of Japanese adolescents. Preventive Medicine Reports. December 2023.

² Federal Centre for Health Education. 2021 Alcohol Survey. June 2022.

³ Addiction Switzerland. Health Behaviour in School-aged Children (HBSC) Study. 2023.

⁴ Bast, L., et al. Use of Tobacco and Nicotine Products among Young People in Denmark—Status in Single and Dual Use. Int. J. Environ. Res. Public Health. 5 May 2022.

⁵ Havermans, A., et al. Awareness, use and perceptions of cigarillos, heated tobacco products and nicotine pouches: A survey among Dutch adolescents and adults. Drug and Alcohol Dependence. December 2021.

⁶ Office for Health Improvement and Disparities. Nicotine vaping in England: an evidence update including health risks and perceptions. 29 September 2022.

HTP=Heated Tobacco Products



Ploom® System Can Accelerate U.S. Tobacco Harm Reduction

Ploom System
will provide U.S. adults
who smoke with
**More Choice
and Options in
Their Pursuit of
Tobacco Harm
Reduction**

Ploom System:

aerosol contains substantially reduced HPHCs compared to combustible cigarette smoke by avoiding the burning of tobacco

efficiently delivers nicotine to adults who smoke at levels comparable or less than cigarettes

may be a satisfying and pleasant alternative to smoking for adults who smoke

NEXT STEPS: continued scientific evaluation of the Ploom System's U.S. tobacco harm reduction potential in preparation for PMTA and MRTPA submissions



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