Supplement to:

Smoking reduction trajectories and their association with smoking cessation: A secondary analysis of longitudinal RCT data

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## Latent Class Analysis Model Fit Information

Smoking trajectories were fit to percent change in cigarettes per day (CPD) from baseline using the distributions shown in sFigure 1 for each trial follow-up point except Week 52, which was reserved for smoking cessation prediction.

## Updated Smoking Cessation Verification Guidelines

Using <=11ppm CO as the threshold for biochemically verified smoking cessation, 135/1784 (7.5%) meet abstinence criteria (40.8% of Class 1, 4.7% of Class 2, and 2.6% of Class 3), compared with 122/1784 (6.8%) using <6ppm CO (37.6% of Class 1, 4.2% of Class 2, and 2.3% of Class 3. Using <11ppm CO as a verification threshold, participants in Classes 2 and 3 were substantially less likely to achieve smoking cessation 6 months following the trial compared to those in Class 1 (Class 2 OR = 0.112 ± 0.057, Class 3 OR = 0.066 ± 0.007).

Given the relatively small impact of reducing the verification threshold, we used <6ppm for smoking cessation predictive modeling, which is consistent with the most recent guidance.(1)

## Figure Legends

**sFigure 1.** Distributions of changes in cigarettes per day (CPD) as a percentage of baseline smoking rates (Total N = 1783). A value of 0 represent no change in smoking rate from baseline.

**sFigure 2**. Latent class mixture model BIC curve (n = 1783).

# References

1. Benowitz NL, Bernert JT, Foulds J, Hecht SS, Jacob P, Jarvis MJ, et al. Biochemical Verification of Tobacco Use and Abstinence: 2019 Update. Nicotine Tob Res. 2020 Jun 12;22(7):1086–97.