Review of: "Population estimates of biomarkers of exposure to carbon monoxide, nicotine, and NNK in smokers and non-smokers"

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Potential competing interests: I am a former employee and current shareholder of GlaxoSmithKline and a current consultant to AstraZeneca and the COPD Foundation. I receive royalties from Up to Date and have advised the Kentucky Department of Health on Vaping Related Lung Disease. I have also served as a Medical Expert for the Schlesinger Law firm and other law firms for customers suing the tobacco industry for tobacco related disease

This is a tobacco industry sponsored piece of work that is attempting to set the stage for demonstrating that “potentially reduced risk tobacco products (PRRPs) ” are less harmful by looking at 3 biomarkers, 2 combustion related ones (Carboxyhemoglobin, NNAL) and one nicotine related (NEQ). Not surprisingly, they found in their review of 87 studies that levels of these three biomarkers in smokers were significantly higher than those in nonsmokers. Their final sentence “This research addresses the existing gap in lack of population level estimates for BOEs by establishing population level estimates for COHb, NEQ, and NNAL that can be used to determine changes in exposure for smokers switching to PRRPs.” explains the rationale behind this, and why I feel the results are suspect. The potential for “reduced harm” from these new products has to be assessed on what they produce, not what they don't produce. While some may contain nicotine, they will not be containing either carbon monoxide or nitrosamines. Thus, looking at levels of combustion products in people switching to these products may give a false sense of safety when they may be exposed to other harmful products or flavorings (not too dissimilar from what we saw in the 1970's with the promotion of “lower tar” cigarettes that were marketed as a safer alternative).