Meeting of the Tobacco Products Scientific Advisory Committee

October 7, 2025

TPSAC Committee Members (Voting)	FDA Participants
Cristine Delnevo, Ph.D., M.P.H., (Chairperson)	Bret Koplow, J.D., Ph.D.
Mignonne C. Guy, Ph.D.+	Benjamin Apelberg, Ph.D.
Sven-Eric Jordt, Ph.D.	Geoffrey Cole, Ph.D.
Lyudmila (Lucy) Popova, Ph.D.	Erin M. Ellis, Ph.D., M.P.H.
Nancy A. Rigotti, M.D.	Amanda Fidalgo, Ph.D.
Risa J. Robinson, Ph.D.+	LeeAnn Haskins, Ph.D.
NFN Scout, Ph.D., M.A.*	Anab Kemal
Dona Upson, M.D., M.A.**	Amber Koblitz, Ph.D., M.P.H.
	Sagie Wagage, Ph.D.
Industry Representatives (Non-Voting)	Kristen Wurcel, Ph.D.
William Andy Bailey, Ph.D. (Growers)	Steven Yee, Ph.D.
Amy Madl, Ph.D., DABT (Small Business)	
Patrick Murphy, RAC (Manufacturers)	**FDA Advisory Consultants and Staff (Non-Voting)**
	Jennifer Schmitz, M.P.H.
Ex-Officio Participants (Non-Voting)	Cristi Stark, M.S.
Alberta Becenti, M.P.H.	Rachel Jang, Pharm.D. (Designated Federal Officer)
Lisa Postow, Ph.D.+	Lisa Johnson
Temporary Members (Non-Voting)	
Gideon St. Helen, Ph.D.	
Cynthia Rider, Ph.D.+	
Irina Stepanov, Ph.D.	
Judith Zelikoff, Ph.D.	

Legend
+ Absent
* General Public Representative
**State, Local, or Federal Government Representative

Tobacco Products Scientific Advisory Committee (TPSAC)

U.S. FOOD AND DRUG ADMINISTRATION (FDA)
Center for Tobacco Products (CTP)
Virtual Meeting

October 7, 2025

These summary minutes for the October 7, 2025, Meeting of the Tobacco Products Scientific Advisory Committee were approved by the TPSAC Chair on October 28, 2025, and by Office of Science, CTP, on November 5, 2025.

I certify that I participated in the October 7, 2025, Meeting of the Tobacco Products Scientific Advisory Committee and that these minutes accurately reflect what transpired.

Digitally signed by Rachel M. Jang -S
Date: 2025.11.05 13:49:52 -05'00'

Rachel Jang, Pharm.D.
Designated Federal Officer

Cristine Delnevo, Ph.D., M.P.H.,
Chair

The Tobacco Products Scientific Advisory Committee (TPSAC) of the U.S. Food and Drug Administration (FDA), Center for Tobacco Products (CTP), met on October 7, 2025, virtually. Prior to the meeting, committee members and invited participants were provided copies of the background materials from FDA. The meeting was called to order by Cristine Delnevo, Ph.D., M.P.H., (Chairperson); housekeeping items and the conflict-of-interest statement were read into the record by Rachel Jang, Pharm.D. (Designated Federal Officer, DFO). There were approximately 2,076 persons in attendance virtually. There was a total of 13 speakers for the Open Public Hearing session.

Agenda: *On October 7, 2025, the committee met in open session to discuss the renewal modified risk tobacco product applications (MRTPAs) submitted by Philip Morris Products, S.A. (PMPSA), for five products authorized as modified risk tobacco products under the following Submission Tracking Numbers (STNs): MR0000059: Marlboro Amber HeatSticks, MR0000060: Marlboro Green Menthol HeatSticks, MR0000061: Marlboro Blue Menthol HeatSticks, MR0000133: IQOS 2.4 System Holder and Charger,* and *MR0000192: IQOS 3.0 System Holder and Charger.*

Bret Koplow, J.D., Ph.D., FDA CTP Acting Center Director, provided FDA Opening Remarks. Keagan Lenihan, Vice President and Chief of External Affairs Officer at Philip Morris International (PMI), provided an introduction and conclusion on behalf of Philip Morris. At the completion of Ms. Lenihan's opening remarks, additional presentations from Philip Morris began with Patrick Picavet, M.D., Chief Medical Officer, followed by Pierpaolo Magnani, B.S., Global Head of Regulatory Insights, and JB Simko, J.D., Vice President and Chief Underage Prevention Officer. After the presentations from Philip Morris, some members of the TPSAC Committee asked a few clarifying questions prior to the brief morning break. The meeting resumed with the first FDA presentation by Amber Koblitz, Ph.D., M.P.H., Social Science Branch Chief. A second FDA presentation by Sagie Wagage, Ph.D., Toxicologist, followed. Dr. Koblitz concluded FDA presentations with FDA's Overall Conclusions About Relative Health Risk. There was time allowed for TPSAC members to ask a few clarifying questions, after which the meeting proceeded to a lunch break.

The meeting reconvened and proceeded to the Open Public Hearing (OPH) session, where 13 OPH speakers provided their comment virtually.

OPH Speakers:

1. Not in attendance
2. Jeff Smith, R Street Institute
3. Julie Gunlock, Independent Women's Forum
4. Lindsey Stroud, Tobacco Harm Reduction 101
5. Julie Gunther, Board Certified Family Physician
6. Diana Zuckerman, President of the National Center for Health Research
7. Lindsay Mark Lewis, Progressive Policy Institute
8. Connor Fuchs, Campaign for Tobacco-Free Kids
9. Ross Marchand, Taxpayers Protection Alliance
10. Dallas Atkinson, general public
11. Travis Johnson, International AntiCounterfeiting Coalition
12. Lonnie McQuirter, Retail Store Chain Owner
13. Graham Boyd, Tobacco Growers Association of North Carolina

14. Kanagavalli Mathivathanan, tobacco control advocate

Following the OPH, Benjamin Apelberg, Ph.D., Deputy Director in the Office of Science, provided a Charge to the Committee and introduced the discussion questions. Dr. Delnevo led the committee discussions to address questions 1 and 2. The committee then took a brief afternoon break. After the break, the committee discussed question 3.

The discussion questions and committee comments/responses were as follows:

Discussion Questions on New Toxicological Evidence

1. The findings from most nonclinical toxicological studies published since the issuance of the modified risk granted orders and reviewed by FDA did not identify new toxicological concerns about IQOS. However, four newly published nonclinical studies that used rodent models to study IQOS aerosol exposure found that exposure to IQOS aerosols had respiratory, cardiovascular, and reproductive/developmental toxic effects that were comparable to or more severe than combustible cigarette smoke exposure.

   Discuss the strength of the noncancer toxicity evidence from those four animal studies in the context of the totality of toxicological evidence, including any limitations of these and other studies that may limit their conclusions.

   Committee Discussion:

   TPSAC members generally agree that the four newly published studies raise legitimate but inconclusive concerns due to methodological limitations. Some members stated the data available since the original orders continue to support reduced exposure claims; others emphasize biological potency, public health implications, and population variation that complicate harm-reduction conclusions. Recommendations for future research included more nuanced measurement of dual-use and multi-product exposure models, better dose characterization and nicotine-normalized comparisons, pregnancy and sex-difference studies, epigenetic and generational studies, and improved dosimetry and mechanistic toxicology models. Several members highlighted the need for an updated Harmful and Potentially Harmful Constituents (HPHCs) list. While some participants argued that IQOS still shows markedly lower toxicant exposures than cigarettes, others cautioned that reduced exposure does not always equal reduced biological harm. Overall, the committee agreed that more rigorous, standardized, and human-relevant studies are needed to clarify the toxicological risks and public health implications of IQOS use.

2. There is evidence of large overall reductions in Harmful and Potentially Harmful Constituents (HPHCs) in IQOS aerosols compared to combusted cigarette smoke; however, newly available nonclinical data from predictive computational toxicology studies and rodent models raise questions about the genotoxic and noncancer toxicological effects of exposure to IQOS aerosols.

   Consider the totality of toxicological evidence that is now available and discuss the implications for long-term disease risks of exposure to IQOS aerosols relative to

combusted cigarettes.

Committee Discussion:

TPSAC members generally agree that IQOS likely poses less harm than combustible cigarettes, but there are some varying opinions about extent of risk reduction and adequacy of current evidence. Members who agreed the reduced exposure claim was substantiated cited significant reductions in harmful chemical compared to cigarettes. However, biomarkers of potential harm in long-term IQOS users remain comparable to smokers, suggesting reduced exposure does not automatically translate to reduced disease risk. Some members noted short-term or acute exposure studies cannot reliably predict long-term effects and emphasized the need for sub-chronic and chronic exposure research to understand delayed or persistent health impacts. Several committee members noted that FDA's HPHC list is outdated and fails to include new compounds found in e-cigarettes and heated tobacco products. FDA was urged to modernize its analytical framework and expand its toxicant monitoring tools and oversee development of new biomarkers and targeted animal and human studies. Several members expressed concern that consumers may misinterpret "reduced exposure" as "reduced risk." Some members recommended revising MRTP labeling to explicitly state that unique or unknown risks may still exist. Some concerns were raised that IQOS use could hinder smoking cessation or contribute to dual use, limiting public health benefit.

Discussion Question on Combusted Cigarette Users Switching to IQOS Products

3. The applicant was unable to conduct all planned post-market studies, including the cohort study designed to evaluate the impact of marketing IQOS with the modified risk claim on tobacco product use behavior. Accordingly, FDA received limited evidence regarding the impact of marketing IQOS with the claim on patterns of tobacco use.

   Discuss the likely patterns of IQOS use behavior when marketed as an MRTP in the United States. Based on the available evidence, consider the likely patterns of use with a specific focus on the likelihood that people who use combusted cigarettes will switch completely to IQOS and the likelihood that they will dual use IQOS and combusted cigarettes.

   Committee Discussion:

   TPSAC members agree that due to incomplete post-market studies, evidence of U.S. consumer behavior remains limited. Members noted that data from international studies indicate high and sustained levels of dual use of IQOS and combusted cigarettes. Multiple members noted that dual use likely does not reduce harm and may even increase health risks compared with cigarette smoking alone. Members noted the difficulty of defining and measuring dual use, as it can include a wide range of behaviors and frequencies. FDA was urged to standardize definitions and methods for assessing dual use in future evaluations. Members noted independent studies have found complete switching to combustible cigarette alternatives is uncommon. Members

noted that the tobacco marketplace has shifted since IQOS was first authorized, and older smokers have shown limited interest in combustible cigarette alternatives, which seem to appeal more to younger adults and nonsmokers. The TPSAC chair emphasized that MRTP authorization should promote public health, so whether IQOS marketing attracts users of lower-risk products or nonsmokers may be one consideration when making that determination.

After the committee provided closing summary statements, the Chair invited FDA to provide final comments. After final comments from Dr. Benjamin Apelberg, the DFO adjourned the meeting.

Additional information and details may be obtained from the transcript and the recording of the webcast of the meeting that may be viewed via the following YouTube links:

October 7, 2025: Tobacco Products Scientific Advisory Committee Meeting