

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 1 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Annex 1:

MRTP Use Behavior and Consumer Understanding and Perception

Product *Marlboro Amber HeatSticks*
Marlboro Green Menthol HeatSticks
Marlboro Blue Menthol HeatSticks
IQOS System Holder and Charger

FDA STN MR0000059-MR0000061, MR0000133

Reporting Period¹ July 7, 2020 to February 28, 2021

¹ Please note that although the Exposure modification orders were issued on July 7, 2020, the postmarket surveillance and studies (PMSS) protocols were approved on February 24, 2021.

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 2 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

TABLE OF CONTENTS

1	SUMMARY – MRTP USE BEHAVIOR AND CONSUMER UNDERSTANDING AND PERCEPTION.....	3
2	<i>IQOS</i> MRTP POSTMARKET STUDIES AND ANALYSES UPDATE	3
3	ADULT PREVALENCE AND PRODUCT USE PATTERNS	5
3.1	Prevalence	5
3.2	Product Use Patterns	6
4	ADULT CONSUMER UNDERSTANDING AND PERCEPTION.....	12
5	UNDERAGE AWARENESS, EVER USE, AND PAST 30-DAY USE	12
6	U.S. SALES AND DISTRIBUTION BY QUARTER	13
7	CONCLUSIONS – MRTP USE BEHAVIOR AND CONSUMER UNDERSTANDING AND PERCEPTION	13

LIST OF TABLES

Table 1:	Summary and Status of <i>IQOS</i> MRTP U.S. Postmarket Surveillance Studies.....	3
Table 2:	Raw Count of Current <i>IQOS</i> Users in ATCT by Survey Month.....	6
Table 3:	Adult Participants in the <i>IQOS</i> Owners Panel by <i>IQOS</i> Usage Level (Total <i>IQOS</i> Owner n=(b) (4)).....	7
Table 4:	Adult Participants in the <i>IQOS</i> Owners Panel by Gender.....	7
Table 5:	Adult Participants in the <i>IQOS</i> Owners Panel by Age	8
Table 6:	Adult Participants in the <i>IQOS</i> Owners Panel by Race.....	8
Table 7:	Adult Participants in the <i>IQOS</i> Owners Panel by Hispanic Descent	9
Table 8:	Adult Participants in the <i>IQOS</i> Owners Panel by of <i>IQOS</i> by Geography	9
Table 9:	Proportion of Adult Participants in the <i>IQOS</i> Owners Panel Who Used Other Tobacco Products	9
Table 10:	UTUS 2020 Estimates: Awareness, Ever Use, and Past 30-Day use of Heated Tobacco Products and Raw Count of Past 30-Day Users of <i>IQOS</i>	13

LIST OF FIGURES

Figure 1:	Distribution of Switching, Dual/Poly, and No <i>IQOS</i> Use Among Active Owners Panel Members	11
Figure 2:	Percentage of Active Owners Panel Members Reporting Other Tobacco Use	11

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 3 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

1 SUMMARY – MRTP USE BEHAVIOR AND CONSUMER UNDERSTANDING AND PERCEPTION

In this section, we provide evidence of, thus far, low uptake and use of the *IQOS* system among U.S. adults and no current use among underage individuals. The low uptake and use of the *IQOS* system align with the limited amount of time the products have been available in the U.S. market and the limited distribution, which was further impacted by the COVID-19 pandemic.

2 *IQOS* MRTP POSTMARKET STUDIES AND ANALYSES UPDATE

On February 24, 2021, FDA issued its letter of approval for the planned post market surveillance studies. As directed, we did not start any planned post market surveillance studies prior to FDA's approval and thus, this update is limited to the data and information gained from our ongoing market surveillance under the PMTA Marketing Order for these products and does not include information from any new studies or amendments to ongoing studies. The status of our planned studies and analyses is presented in Table 1. We plan to implement the Underage Tobacco Use Survey (UTUS) *IQOS* module and launch the first *IQOS* cross-sectional study (b) (4) in the 2nd and 3rd quarters of 2021, respectively. We do not plan to launch the first *IQOS* cohort study (b) (4) until 2022. Please note that we will notify FDA if any of our originally proposed study timelines need to be adjusted.

Table 1: Summary and Status of *IQOS* MRTP U.S. Postmarket Surveillance Studies

Study Name	Study Details	Status
<i>IQOS</i> With Marlboro <i>HeatSticks</i> Cross-Sectional Postmarket Adult Consumer Study (PACS) (b) (4)	This study will be conducted among (b) (4) adult (21+) ever established <i>IQOS</i> users recruited from the <i>IQOS</i> consumer database. The objectives of the online survey are to a) characterize adult ever established <i>IQOS</i> users and their tobacco use patterns; b) characterize risk perceptions of <i>IQOS</i> ; and c) describe initiation, complete switching from cigarette smoking to <i>IQOS</i> , transitions to/back to cigarette smoking, and quitting behaviors relevant to <i>IQOS</i> use. We plan to field the PACS annually for four years. A conservative minimum of n=(b) (4) current established <i>IQOS</i> users and n=(b) (4) former established <i>IQOS</i> users will ensure adequate precision of the estimates for these two groups. The first PACS will begin in the third quarter of 2021. Although (b) (4)	The first execution of the <i>IQOS</i> Cross-Sectional PACS is targeted to field in the third quarter of 2021. (b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 4 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Study Name	Study Details	Status
<p><i>IQOS</i> with Marlboro <i>HeatSticks</i> Cohort Postmarket Adult Consumer Study (PACS)</p> <p>(b) (4)</p>	<p>This study will be conducted among (b) adult recent (have used <i>IQOS</i> for ≤ 6 months), current, established <i>IQOS</i> users and a reference sample of (b) adult combustible cigarette smokers recruited through a mixture of sources. The objectives of this online, longitudinal cohort study are to a) characterize tobacco product use behaviors; b) characterize transitions (e.g., initiation, switching, transitioning to/back to cigarettes, and quitting); c) assess self-reported health-related quality of life, signs and symptoms by product use; and d) assess risk perceptions of <i>IQOS</i> and cigarettes among adult established <i>IQOS</i> users and cigarette smokers over time. The <i>IQOS</i> Cohort PACS involves a closed 24-month observation period, with follow-ups at 3, 6, 12, 18 and 24 months.</p>	<p>We anticipate that the Cohort PACS will begin fielding in the 3rd quarter of 2022. To</p> <p>(b) (4)</p>
<p>Secondary Analysis: Estimation of Prevalence of <i>IQOS</i> Use</p>	<p>This secondary analysis used <i>IQOS</i>-relevant data drawn from ALCS' ongoing consumer research study, the Adult Tobacco Consumer Tracking Study (ATCT), among a nationally representative sample of adults in the U.S. The objectives of the secondary analyses are to estimate (1) prevalence of <i>IQOS</i> use, (2) prevalence of exclusive, dual and poly tobacco use with <i>IQOS</i>, (3) days and amount of product use among <i>IQOS</i> users and (4) initiation, quitting and complete switching behaviors relative to <i>IQOS</i> use among U.S. adults 21 years of age or older. The extent of the reported analyses depends on the number of current <i>IQOS</i> consumers identified in the ATCT dataset.</p>	<p>Data collection relevant to <i>IQOS</i> is ongoing. In this report, we provide a summary of ATCT data collected between July of 2020 and February of 2021. Because the prevalence of <i>IQOS</i> use in the adult general population is still very low, we report only frequency counts for <i>IQOS</i> use in this report.</p>
<p>Reporting from the U.S. <i>IQOS</i> Owners Panel</p>	<p>We report data from ALCS' dynamic longitudinal <i>IQOS</i> Owners Panel. The <i>IQOS</i> Owners Panel tracks adult (21 years and older) tobacco consumers' use trajectories with <i>IQOS</i> over time. Using results from this study, we describe (1) <i>IQOS</i> owners' switching behavior over time, (2) the usage of <i>IQOS</i> and other tobacco products among adult <i>IQOS</i> owners, and (3) the demographic profile of adult <i>IQOS</i> owners. The information we report is consistent with the information reported in support of the <i>IQOS</i> PMTA. Outcome measures are reported in three-month intervals.</p>	<p><i>IQOS</i> Owners Panel data collection is ongoing. In this report, we provide a summary of <i>IQOS</i> Owners Panel data collected between April of 2020 and February of 2021.</p>
<p>Secondary Analysis: Estimation of Awareness and Use of <i>IQOS</i> among Underage Individuals</p>	<p>This analysis will use <i>IQOS</i>-relevant data drawn from ALCS' ongoing Underage Tobacco Use Survey (UTUS), a nationally representative survey of U.S. household-dwelling individuals 13-20 years of age. The objectives of the analyses are to estimate (1) awareness of <i>IQOS</i> and (2) ever and past 30-day <i>IQOS</i> use among underage individuals, as well as to estimate (3) lifetime use behavior, and (4) past 30-day use behavior among ever and past 30-day underage <i>IQOS</i> users, respectively. Use behaviors include exclusive,</p>	<p>UTUS data collection is ongoing. The <i>IQOS</i>-specific module will be implemented in the second quarter of 2021; aligning with the timing of FDA's approval for the PMSS program. Although the</p>

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 5 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Study Name	Study Details	Status
	dual, and poly tobacco use with <i>IQOS</i> as well as frequency of use. Some requirements of postmarket reporting necessitated modifications to the UTUS survey specific to <i>IQOS</i> and adjustments to the sampling plan.	<i>IQOS</i> module has not been implemented, we summarize data on heated tobacco products related to awareness, ever use, and past 30-day use, including the frequency count of <i>IQOS</i> brand usage among past 30-day heated tobacco users in this report.

3 ADULT PREVALENCE AND PRODUCT USE PATTERNS

3.1 Prevalence

To date, prevalence of adult *IQOS* use is low, which aligns with its limited time in market and limited distribution in the U.S. In fact, data from ATCT², our ongoing survey that provides a (b) (4) U.S. adults (21+) annually, revealed (b) reported *IQOS* past 30-day use between July 1st, 2020 to February 28th, 2021 (Table 2). ATCT findings align with recent analyses of the 2019 Tobacco Use Supplement to the Current Population Survey, which estimated that ~8.6% of U.S. adults were aware of heated tobacco products and ~0.51% had ever used heated tobacco.³ Another recent analysis of data collected from a national probability sample of 20,449 U.S. adults between November, 2019 and February, 2020 suggested just 8.1% of adults were aware of heated tobacco products, 0.55% had ever tried, and 0.10% were current users.⁴ Collectively, data from the ATCT and other nationally representative surveys demonstrate low prevalence of heated tobacco product use among adults in the U.S.

² PMSS: Secondary Analysis: Estimation of Prevalence of *IQOS*® Use

³ Azagba S, Shan L (2021). Heated tobacco products: awareness and ever use among U.S. adults. *Am J Prev Med*. S0749-3797(21)00020-9. doi: 10.1016/j.amepre.2020.11.011

⁴ Zhu S, Ong J, Wong S, Cole A, Zhuang Y, Shi Y (2021). Early adoption of heated tobacco products resembles that of e-cigarettes. *Tobacco Control* <http://dx.doi.org/10.1136/tobaccocontrol-2020-056089>

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 6 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Table 2: Raw Count of Current *IQOS* Users in ATCT by Survey Month

Survey Month	Monthly Sample Size	Raw Count of Current <i>IQOS</i> Users
July 2020	(b) (4)	(b) (4)
August 2020		
September 2020		
October 2020		
November 2020		
December 2020		
January 2021		
February 2021		

3.2 Product Use Patterns

Information regarding *IQOS* product use patterns is severely limited.

(b) (4)

(b) (4)

we plan to provide information regarding dual/poly use, amount and frequency of use, initiation, complete switching, and tobacco quitting behaviors relative to *IQOS*. The *IQOS* Cross-Sectional (b) (4) (b) (4) and Cohort (b) (4) studies will provide similar information on usage patterns for future reporting. For this report, we summarize limited data from the *IQOS* Owners Panel related to product use patterns.

As of February 28th, 2021⁵, (b) (4) the majority of whom were male, non-Hispanic White, aged 30-59 years (Tables 3 through 7). The majority of active panel members were from the Southern region of the United States where *IQOS* is currently marketed and sold (Table 8). Preliminary evidence from the Owners Panel demonstrates a pattern of *IQOS* use that leads to 54% switching completely from cigarettes, with 27% engaging in dual use with cigarettes, and 19% using *IQOS* on less than 5% of occasions and continuing cigarette smoking (Table 3). The most commonly reported other tobacco product used by panel members (excluding cigarettes) was e-cigarette/e-vapor (~23%) (Table 9).

⁵ For the period of December 2020 through February 2021; the most recent data collection period

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 7 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Dual/Poly Use: (b) (4) adult *IQOS* Owners Panel members who reported dual use⁷ of *IQOS* and cigarettes, the majority were non-Hispanic White males aged 30-59 years, and 24% reported also using e-cigarette/e-vapor products (Tables 3 through 7 and 9).

Complete Switching: (b) (4) adult *IQOS* Owners Panel members who reported switching completely to *IQOS* from cigarettes, the majority were non-Hispanic White males aged 40-59 years, and ~78% reported using no other tobacco products.

Tables 3 through 9 present the relevant data collected from the *IQOS* Owners Panel between December of 2020 and February of 2021.

Table 3: Adult Participants in the *IQOS* Owners Panel by *IQOS* Usage Level (Total (b) (4))

<i>IQOS</i> Usage Level	Number of People	% of total <i>IQOS</i> Owners
Adult participants who completely switched from cigarettes to <i>IQOS</i> (<i>IQOS</i> usage level = 100%)	(b) (4)	54%
Adult participants who dual use with cigarettes and <i>IQOS</i> (5% ≤ <i>IQOS</i> usage level < 100%)		27%
Adult participants who no longer use <i>IQOS</i> (<i>IQOS</i> usage level < 5%)*		19%

Note: * Active panel members who no longer used *IQOS* continued smoking cigarettes

Table 4: Adult Participants in the *IQOS* Owners Panel by Gender

Gender	Total <i>IQOS</i> Owners % (b) (4)	Participants who completely switched from cigarettes to <i>IQOS</i> % (b) (4)	Participants who dual use with cigarettes and <i>IQOS</i> % (b) (4)	Participants who no longer use <i>IQOS</i> % (b) (4)
Female	40.4%	42.1%	37.0%	40.5%
Male	59.6%	57.9%	63.0%	59.5%

⁷ Dual use: Using *IQOS* greater than 5% but less than 100% of usage occasions

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 8 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Table 5: Adult Participants in the IQOS Owners Panel by Age

Age	Total IQOS Owners % (b) (4)	Participants who completely switched from cigarettes to IQOS % (b) (4)	Participants who dual use with cigarettes and IQOS % (b) (4)	Participants who no longer use IQOS % (b) (4)
21-29	8.6%	9.3%	5.6%	10.8%
30-39	21.2%	19.6%	27.8%	16.2%
40-49	29.3%	30.8%	24.1%	32.4%
50-59	24.7%	23.4%	27.8%	24.3%
60-69	14.1%	14.0%	14.8%	13.5%
70+	2.0%	2.8%	0.0%	2.7%

Table 6: Adult Participants in the IQOS Owners Panel by Race

Race	Total IQOS Owners % (b) (4)	Participants who completely switched from cigarettes to IQOS % (b) (4)	Participants who dual use with cigarettes and IQOS % (b) (4)	Participants who no longer use IQOS % (b) (4)
White or Caucasian	74.2%	72.0%	74.1%	81.1%
Black or African American	7.6%	6.5%	11.1%	5.4%
Asian or Pacific Islander	10.1%	15.0%	3.7%	5.4%
American Indian or Alaska Native	1.5%	1.9%	1.9%	0.0%
Mixed racial background	3.0%	1.9%	3.7%	5.4%
Other race	3.5%	2.8%	5.6%	2.7%

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 9 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Table 7: Adult Participants in the IQOS Owners Panel by Hispanic Descent

Hispanic or Latino	Total IQOS Owners % (b) (4)	Participants who completely switched from cigarettes to IQOS % (b) (4)	Participants who dual use with cigarettes and IQOS % (b) (4)	Participants who no longer use IQOS % (b) (4)
Yes	8.1%	8.4%	9.3%	5.4%
No	91.9%	91.6%	90.7%	94.6%

Table 8: Adult Participants in the IQOS Owners Panel by of IQOS by Geography

Geography	Total IQOS Owners % (b) (4)	Participants who completely switched from cigarettes to IQOS % (b) (4)	Participants who dual use with cigarettes and IQOS % (b) (4)	Participants who no longer use IQOS % (b) (4)
Midwest	2.0%	1.9%	3.7%	0.0%
Northeast	4.0%	5.6%	0.0%	5.4%
South	93.4%	92.5%	94.4%	94.6%
West	0.5%	0.0%	1.9%	0.0%

Table 9: Proportion of Adult Participants in the IQOS Owners Panel Who Used Other Tobacco Products

Other Tobacco Products used in the Past 7 days (Excludes traditional cigarettes)	Total IQOS Owners % (b) (4)	Participants who completely switched from cigarettes to IQOS % (b) (4)	Participants who dual use with cigarettes and IQOS % (b) (4)	Participants who no longer use IQOS % (b) (4)
Fancy, hand-rolled cigars	1.5%	1.9%	0.0%	2.7%
Less expensive, everyday cigars sold in convenience stores	2.0%	0.9%	1.9%	5.4%

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 10 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Other Tobacco Products used in the Past 7 days (Excludes traditional cigarettes)	Total <i>IQOS</i> Owners % (b) (4)	Participants who completely switched from cigarettes to <i>IQOS</i> % (b) (4)	Participants who dual use with cigarettes and <i>IQOS</i> % (b) (4)	Participants who no longer use <i>IQOS</i> % (b) (4)
Moist smokeless tobacco or dip in loose or pouch form, sold in a round can	1.0%	0.0%	1.9%	2.7%
Chewing tobacco in leaf or plug form, sold in a resealable bag	0.5%	0.0%	1.9%	0.0%
Snus (a spit-less, smokeless tobacco pouch product)	1.0%	1.9%	0.0%	0.0%
E-Cigarettes or E-Vapor	22.7%	17.8%	24.1%	35.1%
Other tobacco-derived nicotine products, such as pouches, lozenges, etc (e.g., Zyn, on!)	2.0%	1.9%	3.7%	0.0%
None of the above*	72.7%	77.6%	72.2%	59.5%

Note: * i.e., no other tobacco product use

Overall, data from the *IQOS* Owners Panel points to a general reduction in combustible tobacco product use over time. Figure 1 shows the distribution of switching, dual/poly, and no *IQOS* use among active Owners Panel members in 3-month increments starting from April of 2020⁸. Over time, panel members who switched completely have made up the largest percentage of the active sample. In addition, Figure 2 shows the distribution of other tobacco product use (other than cigarettes) among active Owners Panel members in 3-month increments starting from April of 2020⁸. Over time, reported use of fancy, hand-rolled and everyday cigars declined while e-cigarettes/e-vapor remained the most commonly reported other tobacco product used.

⁸ Reporting periods: April-May 2020; June-August 2020; September-November, 2020, December, 2020-February, 2021

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 11 of 14
Annex 1: MRTTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Proportion of Adult Participants in the IQOS® Owners Panel by IQOS® Usage Level, in 3 month intervals from May 2020 to February 2021

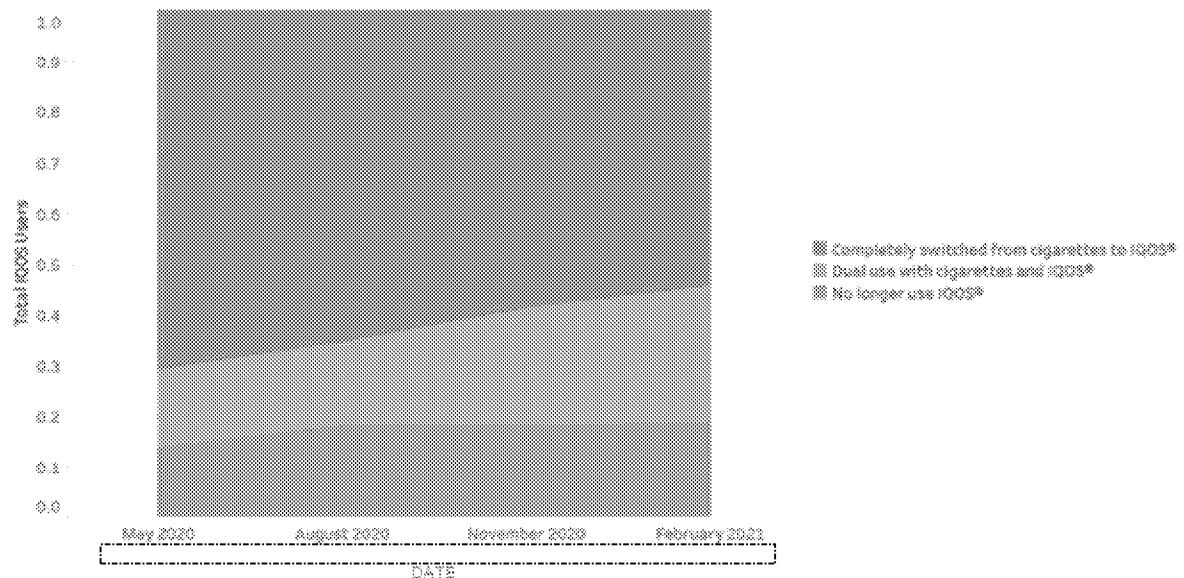


Figure 1: Distribution of Switching, Dual/Poly, and No IQOS Use Among Active Owners Panel Members

Proportion of Adult Participants in the IQOS® Owners Panel Who Used Other Tobacco Products, in 3 month intervals from May 2020 to February 2021

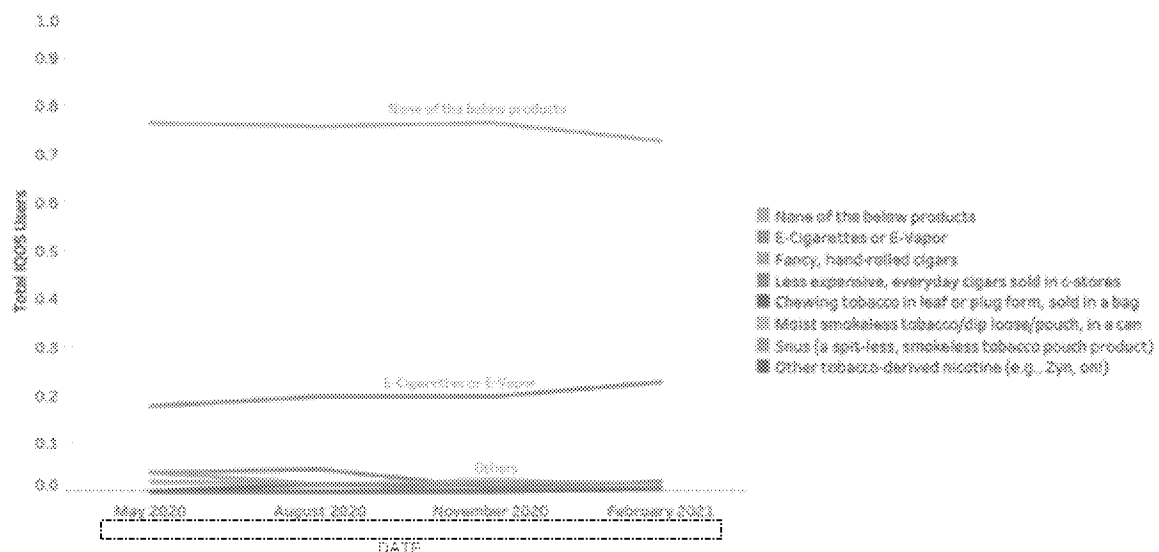


Figure 2: Percentage of Active Owners Panel Members Reporting Other Tobacco Use

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 12 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

4 ADULT CONSUMER UNDERSTANDING AND PERCEPTION

No ALCS-generated data pertaining to adult *IQOS* consumer understanding and perception are available at the time of this report. For future reporting the *IQOS* Cross-Sectional (b) (4) and Cohort (b) (4) studies will provide data related to *IQOS* users' risk perceptions of *IQOS* and cigarettes.

One recent published study by Zhu and colleagues (2021) examined perceived harm of heated tobacco products relative to e-cigarettes.⁴ The majority of participants in that study perceived heated tobacco products to be either less (11.6%) or equally harmful (42.7%) to e-cigarettes, with just 8.5% considering heated tobacco as more harmful and the remaining participants being unsure.⁴

5 UNDERAGE AWARENESS, EVER USE, AND PAST 30-DAY USE

Results of the UTUS suggest that underage use of heated tobacco products, as a product category, is low, and no past 30-day *IQOS* use was reported (Table 10)⁹. The UTUS 2020 results include a sample of 5,252 underage individuals; aggregated from quarter 2, 3, and 4 surveys, and quarter 4 data included an oversample of the three *IQOS*® lead market regions (Atlanta, GA, Richmond, VA, and Charlotte, NC). An estimated 18.5% of youth (13-17 years) and 26.6% of young adults (18-20 years) reported having ever seen or heard of heated tobacco products. Approximately 1% of youth and 3% of young adults reported ever use of heated tobacco products. Less than 1% of youth and young adults reported past 30-day use of heated tobacco products. Among those who reported past 30-day use of a heated tobacco product, none said that they used *IQOS* during the past 30 days. The estimates for past 30-day use of heated tobacco products from UTUS are slightly lower than the National Youth Tobacco Survey (NYTS) 2020 results, which estimate 1.4% of middle and high school students were current users of heated tobacco. Earlier data from NYTS 2019 suggested that 1.6% of middle and high school students were current users of heated tobacco.¹⁰ Importantly, NYTS 2019 data were collected prior to the availability of *IQOS* in the U.S, suggesting that, among youth, there is likely a degree of false or misreporting with this novel product category. Taken together, data from the UTUS and NYTS demonstrate low usage of heated tobacco products among underage individuals in the U.S.

⁹ Past 30-day *IQOS* use was assessed among individuals who were aware of heated tobacco products, had ever used a heated tobacco product, used a heated tobacco product during the past 30 days.

¹⁰ Dai H (2020). Heated tobacco product use and associated factors among U.S. youth, 2019. *Drug Alcohol Depend.* 214:108150, doi: 10.1016/j.drugalcdep.2020.108150

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 13 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

Table 10: UTUS 2020 Estimates: Awareness, Ever Use, and Past 30-Day use of Heated Tobacco Products and Raw Count of Past 30-Day Users of IQOS

Outcome	Youth (13-17 Years)		Young Adults (18-20 Years)	
	n	weighted % (95% CI)	n	weighted % (95% CI)
Awareness	3130	18.5 (16.9, 20.3)	2104	26.6 (24.2, 29.2)
Ever Use	3130	1.0 (0.7, 1.4)	2104	3.3 (2.5, 4.3)
Past 30-Day Use	3130	0.1 (0.1, 0.3)	2103	0.5 (0.3, 1.0)
Past 30-Day IQOS Use	3129	0	2100	0
Sample size varied slightly due to missing values.				

6 U.S. SALES AND DISTRIBUTION BY QUARTER

Over the reporting period, *IQOS* devices and three variants¹¹ of *HeatSticks* have continued to be available for purchase in the markets where *IQOS* is commercialized. After the Modified Risk Granted Order for MR0000059-MR0000061 and MR0000133 was issued on July 7, 2020, PM USA began using the reduced exposure claim in its marketing materials in September 2020. This short timeframe prior to the PMSS Reporting Period makes it difficult to isolate the impact of the claim on sales. However, as background, *IQOS* sales grew across all markets in 2020. Safety measures driven by the pandemic were taken at the *IQOS* stores in both Atlanta and Richmond, including temporary store closures in March through June 2020. Sales growth trends resumed mid-year as boutiques re-opened and *IQOS* was launched in the Charlotte market. The *IQOS* store opened in the Charlotte market in July 2020. Third party retail outlets in Charlotte began receiving shipments of *HeatSticks* shortly after in August 2020. See Annex P01-1 for full year 2020 and quarterly sales and distribution data per the PMSS requirements.¹²

7 CONCLUSIONS – MRTP USE BEHAVIOR AND CONSUMER UNDERSTANDING AND PERCEPTION

With the limited availability of *IQOS* in the U.S., uptake and use of the *IQOS* system among legal age adult cigarette smokers remains low. However, in the markets where *IQOS* is available, sales trends demonstrated positive momentum over the reporting period. In addition,

¹¹ Variants of *HeatSticks* Marlboro Amber, Marlboro Green Menthol, and Marlboro Blue Menthol.

¹² The Geographic Area titled “South Census Region” includes Atlanta, Charlotte, and Richmond.

The Channel titled “All Retail” includes Convenience, Drug, Gas, Supermarket and Grocery, and Undefined channels.

The Channel titled “All Channel” includes Company Owned Store, Convenience, Drug, E-Commerce, Gas, Supermarket and Grocery, and Undefined channels.

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Philip Morris Products S.A.	Confidential
2021 PMSS Report for MR0000059-MR0000061 and MR0000133	Page 14 of 14
Annex 1: MRTP Use Behavior and Consumer Understanding and Perception	Version 1.0

there are no indications of youth and underage young adult use of *IQOS* at the time of this report. The low uptake of *IQOS* use combined with the planned start dates for our Cross-Sectional (b) (4) and Cohort (b) (4) studies and for implementation of the UTUS *IQOS* module led to a relatively small amount of evidence related to awareness, use patterns over time, and adult consumer understanding of the modified risk messaging at this time. As the *IQOS* market expands and more adult cigarette smokers become aware of the *IQOS* system as a reduced exposure tobacco option, we expect that adult *IQOS* uptake will increase.

Consumer research summarized in Annual Report's Annex 14 suggests a favorable environment for *IQOS* uptake in the future. Adult smoker awareness of *IQOS* is higher in regions where it is currently marketed relative to the rest of the U.S.¹³ In addition over 40% of adult cigarette smokers may be currently thinking about or trying to switch to an alternative tobacco product.¹⁴ Among those interested in switching, about half are interested in using an alternative tobacco product in the next 30 days.¹⁴ Finally, the reduced exposure claim may increase interest in purchasing *IQOS* and may be effective in increasing purchase intention among lower income cigarette smokers.¹⁵ These consumer research data suggest that as the *IQOS* market expands so too will adult cigarette smokers' awareness of the product, which may increase the likelihood of smokers' trying and switching to *IQOS*.

Limited data from the *IQOS* Owners Panel suggests that over half of active panel participants have switched completely from cigarettes while slightly over 25% continue to dual use *IQOS* and cigarettes. We plan to gain deeper insights into the patterns of dual use and switching behavior from the *IQOS* Cross-Sectional (ALCS-CMI-17-36-HT) and Cohort (ALCS-CMI-17-37-HT) studies in the future. Nevertheless, the early data from the *IQOS* Owners Panel is promising given that 54% have switched completely to *IQOS* from cigarettes in the past year, ~78% of whom report exclusive use of *IQOS* (i.e., no other tobacco use).

To date, the limited data that we have are positive indications that Adult *IQOS* users who switch completely from cigarettes are likely to become exclusive *IQOS* users and underage use of *IQOS* is, thus far, undetectable.

¹³ *IQOS* Quality of Awareness, Wave 3-6; See Annual Report's Annex 14

¹⁴ *IQOS* Tobacco Alternatives Study; See Annual Report's Annex 14

¹⁵ *IQOS* Price Optimization Study; See Annual Report's Annex 14

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.
