



HHS Public Access

Author manuscript

Tob Control. Author manuscript; available in PMC 2023 July 01.

Published in final edited form as:

Tob Control. 2023 July ; 32(4): 418–427. doi:10.1136/tobaccocontrol-2021-056819.

IQOS Marketing Strategies in the United States Before and After US FDA Modified Risk Tobacco Product Authorization

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Abstract

Introduction.—Given that the US Food and Drug Administration (FDA) authorized reduced exposure messaging to be used in IQOS marketing, we examined: 1) IQOS ad content; 2) advertising media channels; and 3) changes in advertising efforts over time.

Methods.—We conducted a mixed-methods study regarding IQOS ad content (headlines, themes, images), ad occurrence characteristics (including content, media channels, and adspend) in the US from August 2019 to April 2021 using Numerator advertising/marketing data.

Results.—Across 24 unique ads and 591 occurrences (84.6% online, 8.0% print, 7.4% mobile), there was \$4,902,110 total adspend (98.9% allocated to print). Across unique ads, occurrences, and adspend, prominent themes included “real tobacco” (45.8%, 47.4%, 30.1%, respectively), less odor/ash (29.2%, 21.0%, 29.9%), and switching from cigarettes (25.0%, 19.5%, 69.4%), and images mainly featured the product alone (58.2%, 61.4%, 99.5%) or with women (25.0%, 19.1%, 0.3%). Per occurrences and adspend, the most prominent media channel themes (e.g., magazine/website topics) were technology (19.3%, 10.6%), women’s fashion (18.1%, 26.2%), weather/news (9.0%, 15.3%), and entertainment/pop culture/gaming (8.5%, 23.1%). Ad themes appearing only post-FDA authorization included switching from traditional cigarettes, same-day/home-delivery,

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Human Subjects Statement

This study was deemed exempt from Institutional Review Board approvals, per George Washington University’s Institutional Review Board.

Declaration of Interests

Yael Bar-Zeev has received fees for lectures from Pfizer Ltd, Novartis NCH, and GSK Consumer Health (distributors of smoking cessation pharmacotherapy in Israel) in the past (2012- July2019). Hagai Levine had received fees for lectures from Pfizer Israel Ltd (distributor of a smoking cessation pharmacotherapy in Israel) in 2017. Lorien Abrams receives royalties for the sale of Text2Quit and is a shareholder in Welltok, Inc.

convenience (e.g., use indoors), reduced exposure to some dangerous substances, science/research, and distinction from e-cigarettes. Overall adspend per occurrence increased post-authorization ($p=.016$); the highest adspend per unique ad (69.3% of total) focused on ads featuring reduced exposure.

Conclusions.—Regulatory efforts must be informed by ongoing surveillance of IQOS marketing efforts and its impacts, particularly how specific consumer subgroups (e.g., tobacco non-users, women, young people) are impacted by marketing exposure.

Keywords

Tobacco industry; tobacco control; marketing; heated tobacco products

INTRODUCTION

Heated tobacco products (HTPs)^{1,2} represent a growing segment of the global tobacco market.³⁻⁷ The largest market share of HTPs is held by Philip Morris International's (PMI) product, IQOS, and their accompanying disposable tobacco sticks (HEETS).⁸ IQOS, first released in Japan in 2014, is now sold in over 60 countries and has over 17 million users.⁹

After considering the premarket tobacco application (PMTA) for IQOS, FDA issued an order in April 2019 authorizing its marketing in the US.¹⁰ Since Philip Morris USA (PM – under parent company Altria) began to expand IQOS markets in the US in Fall 2019,¹¹ IQOS has penetrated markets in Georgia, Virginia, North Carolina, and South Carolina. Even prior to its entry into the US, adult awareness of HTPs increased from 9.3% to 12.4% from 2016 to 2017, with ever and current use roughly doubling to 2.2% and 1.1%, respectively.^{3,12}

In the US, specific FDA authorization is required to advertise a tobacco product as “reduced harm” or “reduced exposure”, which is pursued via the modified risk tobacco product (MRTP) application pathway.¹³ Requirements for obtaining authorization to use reduced *exposure* messaging is less rigorous compared to reduced *harm*. On July 7, 2020, FDA authorized IQOS to use reduced exposure messaging in its marketing¹⁴ but did *not* authorize the use of reduced risk or harm messaging due to insufficient evidence of reduced harm or risk of tobacco-related diseases.¹⁵ Among the authorized reduced exposure claims are: “IQOS heats tobacco but does not burn it”, “[it] significantly reduces the production of harmful and potentially harmful chemicals”, and “scientific studies have shown that switching completely from cigarettes to the IQOS system significantly reduces your body’s exposure to harmful or potentially harmful chemicals”.¹⁶ Unfortunately, reduced exposure messages may be interpreted as reduced risk,¹⁷ messages regarding “switching completely” may be misperceived by consumers,^{17,18} and IQOS users are unlikely to “switch completely”.¹⁸

Given the HTP’s potential harm to public health,^{7,19-21} ongoing surveillance is needed to estimate the impact of HTPs and related marketing;^{22,23} in fact, FDA requires PM to conduct post-marketing surveillance to monitor public health impact.²⁴ Marketing strategies of HTPs are important to examine, as these strategies impact how HTPs are perceived

and used. Advertising attracts new users,^{25–29} promotes continued use,^{30–32} builds brand loyalty,³³ and expands tobacco markets.^{27,28,30,33} For newly introduced products such as HTPs, advertising is fundamental to their success,³⁴ as the first exposure is the most influential for short-term sales or gains.³⁵

Marketing campaigns, such as those developed by the tobacco industry,^{36,37} are based on market research, which segments populations based on some type of similarity, such as sociodemographics, behaviors, reactions to marketing messages, or psychographics (e.g., attitudes, needs, wants, goals, lifestyles).^{37–40} These strategies inform both: 1) the channels through which advertising campaigns are disseminated; and 2) the messages used to attract consumers. In terms of media channels, outside of point-of-sale advertising,^{41,42} PMI has used various channels to market IQOS, including traditional, new, and social media,^{43–49} as well as more novel approaches such as brand ambassadors.^{50,51}

Regarding messaging strategies, HTPs have been marketed globally as an alternative to combustible cigarettes, often using claims such as “cleaner” and “reduced-risk” products,⁵⁰ despite limited evidence of such claims.^{2,52} Other messaging strategies have focused on values and lifestyle characteristics, such as being a high-end, fashionable alternative to smoking; a device for tech-savvy consumers;⁵³ or as a clean, chic, and pure product, which seemingly aligns with cultural values of order, cleanliness, quality, and respect for others in Japan.⁵⁴ These are just a few examples of messaging strategies previously used by PMI.

With FDA authorization to market IQOS using reduced exposure messaging, it is critical to understand the extent to which this authorization has shifted both PM’s messaging strategies and the channels through which PM is disseminating its marketing, as these changes likely impact targeted consumers. Thus, this study examined: 1) IQOS ad content; 2) prominent media channels through which IQOS is advertised (per number of occurrences, adspend, and digital impressions); and 3) changes in advertising efforts (i.e., content, adspend, media channels) over time, particularly before versus after FDA authorized IQOS to use modified exposure messaging.

METHODS

Data Source

Data for this study were purchased from Numerator (formerly Competitrack), a media spend tracking company that tracks over 2,600 English language media outlets in the US, which has been used in previous public health and tobacco-related research.^{55–57} Numerator systematically tracks a broad range of marketing channels, including print ads (in newspapers, magazines, and inserts), TV, radio, cinema, mobile, online displays/videos, outdoor, and social media, as well as direct marketing on a contractual basis.⁵⁸ A defined classification system is used to code the advertiser, unique ad content (i.e., visual content/imagery, headlines/other prominent text), if the ad was “recut” (i.e., revision of a prior/existing ad), station/channel, market (e.g., national or designated market area), number of occurrences of the ads (i.e., ad campaigns, which could use: [a] existing or recut ad content or unique ad content and [b] similar or distinct channels and markets), run dates, cost estimates (i.e., adspend), and number of digital impressions (i.e., digital views or

engagements with the ads as derived by Web-indexing technology, audience measurement data from comScore, and estimated cost per thousand impressions for each monitored site), among other variables.⁵⁸

Procedures

We conducted a mixed-methods study regarding IQOS adspend (i.e., amount of money spent on advertising), adspend per media channel, and messaging strategies. The sampling frame included all data regarding IQOS advertising since its launch in the US in August 2019 (first IQOS ad) to April 2021.

Ads during this timeframe included only print, online display, and mobile. Print ads are determined via manual review of hard copy and digital publications within top national newspapers and magazines sourced from multiple markets to identify regional and demographic buys.⁵⁸ Online display ads are ad occurrences for display/banner advertising for Interactive Advertising Bureau standard ad sizes (e.g. medium rectangle, leaderboard)⁵⁹ running on websites in desktop/laptop environments, recorded using proprietary Web indexing technology involving daily page visits across thousands of sites, including top ad-supported websites (e.g., [Amazon.com](https://www.amazon.com)).⁵⁸ Mobile ads include ad occurrences running in mobile environments (phones/tablets), including display/banner advertising on websites and apps and video advertising served against video content on websites, captured by software monitoring of top ad-supported mobile-enabled websites/apps, as determined by high-traffic sites/apps.⁵⁸

Data Management & Analysis

Ad occurrences were attached to metadata regarding whether it featured unique ad content versus recut ad content, run date of the occurrence, media type (i.e., print, online display, mobile), media channel (e.g., magazine, website), ad size, adspend, and number of digital impressions (for online display and mobile; see Appendix A for sample ad descriptions).

To describe *ad content*, recut ads were categorized alongside the respective original ad. For each unique individual ad, we recorded the headline (see Table 1 for headlines) and then assigned headline themes (see Table 2 for headline themes). Two members of the authorship team (CJB and KFR) developed a list of themes (which were not discrete categories) and applied them independently to all headlines (intercoder reliability Kappa=100%). We also confirmed image content (which were designed as discrete codes) with the data provided by Numerator.

Across *ad occurrences*, we also categorized media channels by theme (e.g., news, weather, fashion, technology; see Appendix B for media channel themes). Two members of the authorship team (CJB and CNW) developed a list of themes (which were discrete categories) and applied them independently to all media channels (intercoder reliability Kappa=91%); discordantly coded channels were discussed and recoded with consensus. Parent companies of the media channels were also coded to show the major companies distributing IQOS marketing.

Adspend estimates are based on the following metrics: for print, open rates from multiple media monitoring sources (e.g., Nielsen, SQAD);⁵⁸ for online display, top-line digital spend from an industry source to estimate aggregate spend for the trackable digital web-based universe for the given run week, projected spend per site, and media value (per ad frequency and other proprietary inputs);⁵⁸ and for mobile, top-line digital spend from an industry source to estimate aggregate spend for the trackable app-spend universe for the given run week, projected spend per app, and media value.⁵⁸

The run date of each occurrence was categorized by their begin date as either before or after July 7, 2020, reflecting the pre- versus post-MRTP authorization periods. Adspend and digital impressions were also characterized by quarter, starting in 2019 Quarter 3 (July-Sept) to 2021 Quarter 2 (Apr-incomplete).

Quantitative data were analyzed using SPSS 26.0,⁶⁰ with alpha set at .05. To explore ad content, descriptive statistics were used to characterize ad headline themes and visual themes, as well as average adspend per ad and digital impressions per ad. We then analyzed these themes using bivariate analyses to characterize differences pre- versus post-MRTP. To examine prominent media channels and themes of media channels through which IQOS is advertised, we conducted descriptive analyses, characterizing the occurrences, which included metrics regarding media type, ad headlines used, ad headline and visual themes, media channels, ad size, average adspend per occurrence, and average number of digital impressions per occurrence. Bivariate analyses were then used to examine occurrences launched pre-versus post-MRTP. Subsequently, we conducted analyses, characterizing adspend by media type, ad headlines used, ad headline and visual themes, and media channels. We also explored digital impressions by media channel.

RESULTS

Across the study timeframe, there were 24 unique ads (i.e., unique content) and 591 ad occurrences, distributed across print, online, and mobile. These ads were distributed to the entire general US market (rather than geographically restricted markets). During this period, there was \$4,902,110 total adspend and 22,029,900 impressions.

Ad Content Characteristics

Table 1 provides the list of unique ad headlines, as well as the number of occurrences they represent (see Appendix A for example ad content). Most headlines were used only once across ads (albeit with considerable overlap in content), and all but one of the headlines (i.e., “Get IQOS”) were exclusive to either the pre- or post-MRTP period. Table 2 shows that references to “real tobacco” occurred in 45.8% (11/24) of unique ads, with other prominent references including less odor/ash (29.2%; 7/24), switching from cigarettes (25.0%; 6/24), same-day/home delivery (20.8%; 5/24), convenience (16.7%; 4/24), and not burned/heat control (16.7%; 4/24). Themes only appearing post-MRTP included switching from traditional cigarettes, same-day/home delivery, convenience (e.g., use indoors), reduced exposure, science/research, and distinction from e-cigarettes. The majority of ads featured only the product itself (58.3%; 14/24), with the product being featured with a woman in 25.0% (6/24), with a man in 4.2% (1/24), and with both a man and woman in 4.2% of the

ads (1/24). Average adspend per unique ad was \$19,530 (SD=\$45,530), and the average number of digital impressions per unique ad was 48,400 (SD=54,550), with no differences pre- versus post-MRTP. The highest adspend per unique ad was \$3,395,900 (\$69.3%), with the headline “*Reduce your Body’s Exposure to Harmful Chemicals*” (Table 1).

Ad Occurrence Characteristics

Displayed in Table 3, most occurrences (84.6%) were via online displays, with print and mobile representing ~8% of occurrences, respectively. The number of occurrences per ad headline theme varied, with prominent messages including “real tobacco” and “get IQOS” (47.4% and 35.0% of occurrences, respectively) – both pre- and post-MRTP – followed by less odor/ash (21.0%), switching (19.5%), future (18.3%), innovation/technology (17.8%), convenience (15.6%), and not burned/heat control (13.5%). Noteworthy is that headlines with themes emphasizing real tobacco, switching, convenience, not burned, same-day/home delivery, enjoyment/satisfaction, reduced exposure, and science/research base represented a greater proportion of ads post- versus pre-MRTP ($p < .05$). Also noteworthy is that, while ad visual themes were largely product-centric for both periods, more ads depicted people, particularly women, post- versus pre-MRTP ($p < .001$). The majority of occurrences depicted new ads (59.2%), especially in the post-MRTP period (68.0%). Across occurrences, ad sizes were quite large, being at least medium rectangle (i.e., 300×250 pixels⁵⁹).

The most prominent media channel themes were technology (19.3%) and women’s fashion (18.1%), followed by home (9.5%), weather/news (9.0%), and entertainment/pop culture/gaming (8.5%; Table 3 & Figure 1a; see Appendix B for specific channels). Post-MRTP, there were more occurrences across marketing channels thematically oriented to women’s fashion, home, entertainment/pop culture/gaming, and travel ($p < .05$).

Average adspend per occurrence was \$8,290 (SD=\$31,070), which increased post-MRTP ($p = .016$). The average number of digital impressions per occurrence was 40,500 (SD=109,640), which did not significantly change pre- to post-MRTP.

Adspend and Impressions

Table 4 highlights adspend across different dimensions of occurrences. Overall, total adspend across the study timeframe was \$4,902,110, with the majority being spent after MRTP authorization (\$3,578,030; 73.0%; Figure 1b). Almost all adspend (~99%) went toward print advertising and three main ads (Table 1). Adspend was particularly allocated to ad themes related to switching from cigarettes, reduced exposure, real tobacco, and less odor/ash. Almost all adspend (>99%) was allocated to ads depicting the product only. The greatest amount of adspend was allocated to media channels representing women’s fashion (26.2%), entertainment/pop culture/gaming (23.1%), men’s fashion (18.4%), weather/news (15.3%), and technology (10.6%; Figure 1a).

Regarding digital impressions (not shown in tables), there were a total of 22,029,900 impressions, with 63.2% earned via online display and 26.8% earned via mobile channels. The number and proportions of digital impressions earned across media channel themes largely reflected occurrences across media channels (Figure 1a), but did not necessarily reflect adspend across media channels (Figure 1a) or adspend across quarters (Figure 1b).

DISCUSSION

This study is the first to examine IQOS marketing in the US across different media platforms and the extent to which it changed pre- to post MRTP authorization. Notably, adspend was highest during the initial emergence in the US market and then in the later part of 2020 and into 2021, after MRTP authorization. The modest adspend in 2020 may be related to COVID-19, which led to state shelter-in-place orders beginning in March 2020 and impacted US population behavior throughout 2020 and into 2021.⁶¹ In addition, ads were circulated mainly in print, online, and via mobile channels. Print ads accounted for the vast majority (~99%) of adspend, although online displays accounted for the majority (~85%) of occurrences, as well as digital impressions.

Regarding ad content, most headlines were used only once; however, certain themes (e.g., real tobacco) were featured across ads. Moreover, certain themes (i.e., real tobacco, less odor/ash, innovation/technology) were consistently used pre- to post-MRTP, which has been noted in other countries as well.⁵³ Messages regarding reduced exposure, promoting switching from traditional cigarettes, and eluding to research to support claims of reduced exposure emerged post-MRTP, as anticipated. Some of these messages (e.g., technology, switching, health claims) have also been used by various e-cigarette brands.^{55,62} Other prominent messages also emerged post-MRTP that may be reflections of other societal events: 1) same-day/home delivery and convenience, potentially related to COVID-19 state shelter-in-place orders and their impacts on usual in-person consumerism;^{63,64} and 2) distinguishing IQOS from e-cigarettes, potentially related to increased media coverage of e-cigarette and vaping associated lung injury (EVALI).⁶⁵

Noteworthy, most ad content and occurrences featured the IQOS product itself; however, 29.2% of ad content and 21.3% of ad occurrences included women in the visual content (vs. 8.4% of ad content and 3.2% of ad occurrences including men). Along these lines, media channels thematically oriented toward women's fashion accounted for the largest share of adspend and among the most ad occurrences. Moreover, many of these women's fashion media channels target younger women; for example, *Self* targets ages 18–30,⁶⁶ 21% of *Glamour*'s readership is ages 18–24 (with another 23% being 25–34),⁶⁷ and per Conde Nast's website, *Teen Vogue* is "the destination for the next generation of influencers" and "educates, enlightens, and empowers young people, arming them with all they need to lead stylish and informed lives".⁶⁸ Additionally, media channels targeting entertainment/pop culture/gaming were also prominent in terms of both occurrences and adspend. In short, these findings raise concerns about targeting women, as well as young people, which contradicts PM's stated target consumers of 24 and older.¹¹ Furthermore, research in countries with established IQOS markets, specifically in Italy⁶⁹ and South Korea,⁷⁰ indicate comparable numbers of never and current smokers who have tried or intend to try IQOS⁶⁹ and that current IQOS users are more likely to also smoke conventional cigarettes and/or e-cigarettes.⁷⁰ These findings also contradict the industry's claims that the target market is smokers and that conventional cigarette smokers will switch to IQOS.

It is also important to note how these strategies have been used by PM for prior products. For example, one study comparing MarkTen advertising strategies relative to other e-

cigarette brands (i.e., Vuse, NJoy, Blu) indicated that – like the other e-cigarette brands – MarkTen ads largely focused its imagery on the product itself.⁵⁵ However, MarkTen was unique in its featuring of people in its ads, particularly women and young people,⁵⁵ as current findings show in relation to IQOS. MarkTen was also unique, relative to the other brands, in its minimal focus on flavors,⁵⁵ which is also notable with regard to IQOS advertising. Adspend for MarkTen was distinct from the others in its allocation of all adspend on print ads, while the others also prominently leveraged TV and online advertising.⁵⁵ A more recent product that is noteworthy and relevant is JUUL, an e-cigarette of which Altria, the parent company of PM, has 35% stake.⁷¹ JUUL’s marketing strategies have involved youthful looking men and women using JUUL, how discrete the device and its use are,⁷² and messaging that misleads about the risk of addiction.^{48,73} JUUL is also highly discussed on social media platforms such as Twitter, Instagram, YouTube, and Reddit.⁴⁸ While JUUL more recently invested in campaigns to reduce underage access, much of these efforts have been in reaction to scrutiny by FDA, public health, and media regarding underage use – and have focused on media used by health and legislative organizations.⁷⁴ Collectively, these experiences of PM-affiliated products in the US highlight concerns about targeting young people and women, as well as leveraging online, mobile, and social media, which may provide opportunities to circumvent regulatory efforts that prohibit targeting young people and use of certain language (e.g., “reduced risk”) in ad content.⁴⁸

These findings have implications for research and practice. Ongoing surveillance is needed to monitor the content and distribution channels of IQOS advertising, as well as its impact on consumers. In particular, current findings indicate the need to monitor the impact on young people and women and to monitor the online, mobile, and social media environments. Notably, current findings must be included in PM’s post-market surveillance studies, which “must include procedures for monitoring and assessing previously unreported (new) findings both in published or unpublished studies conducted by you or on your behalf and in published or otherwise available studies regarding the MRTPs and consumer perception, behavior, or health” and include studies of impact on youth and non-users of tobacco, which could include women who are seemingly targeted consumers.²⁴ In addition, international research is also needed to monitor the impact of FDA’s MRTP authorization, as PMI has used it to promote IQOS around the world, including mischaracterizing FDA’s MRTP order as evidence that IQOS is a reduced harm product and leveraging it in efforts to minimize government regulation of IQOS.^{21,75–85} This is highly controversial, as this is occurring in countries that have ratified the WHO Framework Convention on Tobacco Control,^{21,75–85} which in fact calls for a comprehensive ban on tobacco product advertising, promotion, and sponsorship.⁸⁶ Finally, another concern is how consumers perceive ad headlines such as “Why Make the Switch from Cigarettes to IQOS?” when situated on ads that have warning labels indicating “Quitting Smoking Now Greatly Reduces Serious Risks to Your Health”, as there is evidence from other countries that PMI has strategized to pitch its products against such health warning labels/campaigns.⁸⁷

Limitations

This study was limited by a relatively small number of ads available, which precluded using advanced analyses. However, descriptive analyses indicated notable themes and changes

from pre- to post-MRTP authorization. In addition, COVID-19 and other societal events likely impacted IQOS marketing.^{63,64} In addition, this study focused on explicitly-paid advertising and did not include point-of-sale marketing (which has been the focus of limited research in the US⁸⁸ and elsewhere^{41,42,89,90}), promotion via social media,^{53,91} or other ways in which industry influences media (e.g., “unpaid” articles,⁹² communication with policymakers and retailers^{44,89}). These other strategies also require ongoing surveillance.

Conclusions

As IQOS markets in the US expand, ongoing marketing and population impact surveillance – by regulatory agencies and independent researchers – is needed to inform regulatory efforts. Language and imagery used in advertising IQOS, particularly post-MRTP, must be scrutinized to determine how consumers are interpreting the potential harms of IQOS and their perceptions of how and why IQOS should be used (e.g., to facilitate smoking cessation, to project positive self-image) and who should use IQOS (e.g., young people, cigarette users) based on IQOS’ marketing content and channels. This is critical as FDA continues to review MRTP applications and authorize tobacco products to use reduced exposure or harm claims. Furthermore, strategic international collaborations are needed to advance and inform regulatory efforts, especially given PMI’s leveraging of FDA’s MRTP authorization in its marketing globally and to influence policy in other countries.^{85,93}

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements

The authors acknowledge and thank other members of our research team, including Orly Manor, PhD and our staff, as well as the members of the External Advisory Board for their input to the study’s design, methodology, and interpretation of results (by alphabetical order): Joanna Cohen PhD, Nadav Davidovitch MD, PhD, Milka Dunchin MD, Anat Gesser-Edelsburg PhD, Michael Eriksen ScD, Haim Geva Haspil, Lisa Henriksen PhD, Elad Godinger, Shira Kislev, James Thrasher PhD.

Funding

This research was supported by the National Cancer Institute (R01CA239178-01A1; MPIs: Berg, Levine) and by the Israel Lung and Tuberculosis Association (MPIs: Bar-Zeev, Levine). Dr. Berg is also supported by other NIH funding, specifically the US National Cancer Institute (R01CA179422-01; PI: Berg; R01CA215155-01A1; PI: Berg), the US Fogarty International Center/National Institutes of Health (NIH) (1R01TW010664-01; MPIs: Berg, Kegler), and the National Institute of Environmental Health Sciences/Fogarty (D43ES030927-01; MPIs: Berg, Marsit, Sturua).

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What This Paper Adds

What is already known on this subject?

- Worldwide, there is increasing use of heated tobacco products (HTPs), generally marketed as an alternative to combustible cigarettes, often using claims that use of HTPs is less harmful than cigarettes and other combustible tobacco products.
- For newly introduced products such as HTPs, advertising is fundamental to product success.
- IQOS was the first HTP to receive US FDA authorization to use “reduced exposure” claims (i.e., that use reduces exposure to harmful or potentially harmful substances relative to cigarettes), which does *not* allow language regarding reduced harm or risk.

What important gaps in knowledge exist on this topic?

- The impacts of such FDA authorization – in terms of PM’s subsequent marketing strategies and related consumer perceptions and behaviors – are unknown.
- Thus, it is critical to examine the marketing of IQOS in the USA, particularly before and after authorization to use reduced exposure claims.

What this study adds?

- There was a surge in adspend after IQOS received FDA modified exposure authorization.
- Certain themes (i.e., real tobacco, less odor/ash, innovation/technology) were consistently used before and after modified exposure authorization, while messages regarding reduced exposure and switching from traditional cigarettes emerged post-authorization.
- Ad content, occurrences, and adspend indicated targeting of women (i.e., featured in ads, relevant media channels) as well as those under age 24.

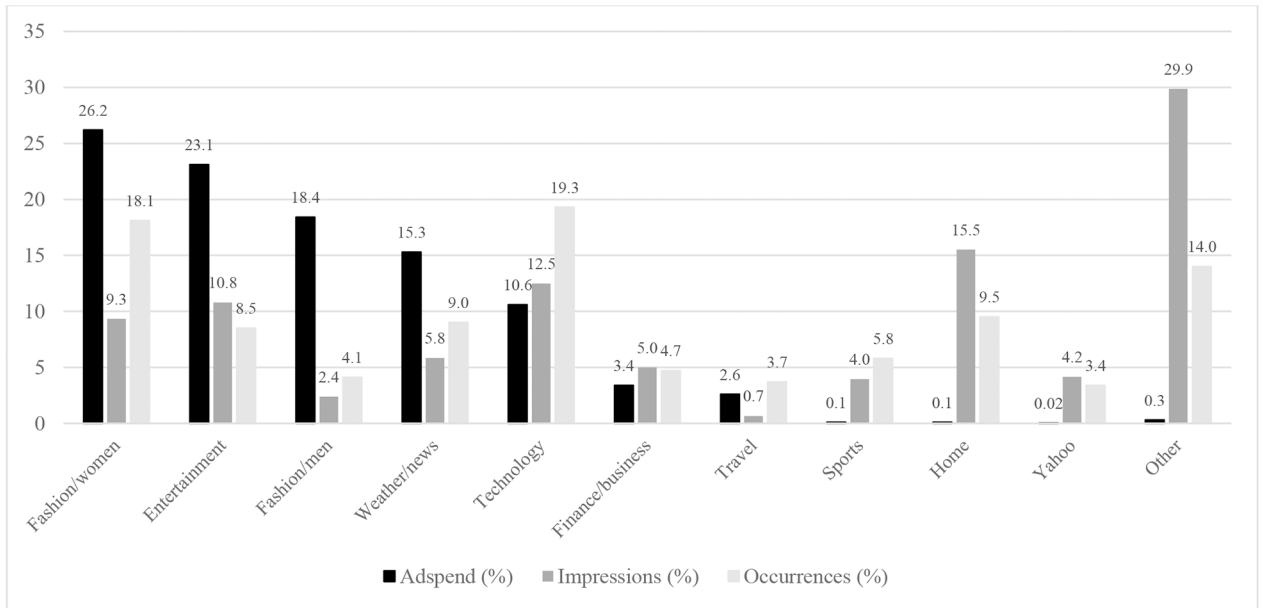


Figure 1a. Percent of adspend, impressions, and occurrences by media channel theme, August 2019 to April 2021

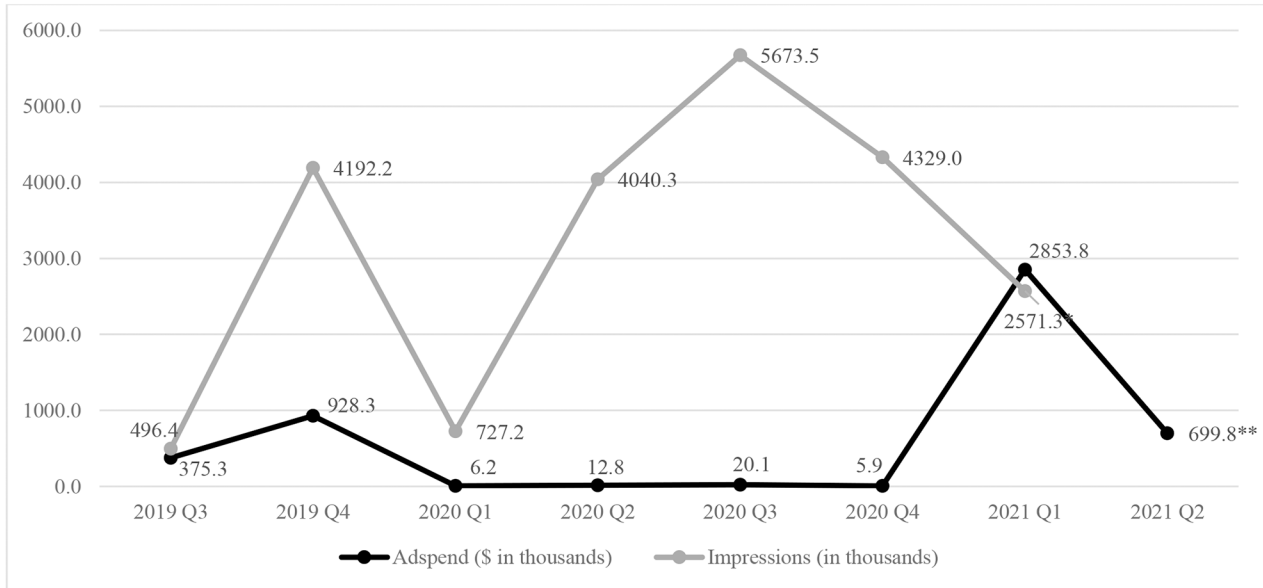


Figure 1b. Adspend (\$ in thousands) and impressions (N in thousands) by quarter, August 2019 to April 2021
 *Data for 2021 Q2 not available; ** Data for 2021 Q2 incomplete (i.e., includes only April).

Figure 1.

Advertising characteristics across media channels and time

Note: Ad occurrences defined as ad campaigns, which could use: [a] existing or recut ad content or unique ad content and [b] similar or distinct channels and markets. Digital impressions defined as digital views or engagements with the ads as derived by Web-indexing technology, audience measurement data from comScore, and estimated cost per thousand impressions for each monitored site.

Table 1.

Ad Headlines and Example Content Pre- and Post-MRTP, August 2019 to April, 2021^{*}

Ad Headline	Occurrences (of 591 total) N (%)
Both Pre- and Post-MRTP	
Get IQOS	128 (21.7)
Pre-MRTP	
The Future of Tobacco is Here	89 (15.1)
Real Tobacco Meets Innovative Technology	42 (7.3)
Get IQOS Real Tobacco Less Odor	17 (2.9)
<i>Meet IQOS Real Tobacco No Ash Less Odor^a</i>	11 (1.9)
Meet IQOS The Future of Real Tobacco Has Arrived Real Tobacco No Ash Less Odor	13 (2.2)
The Future of Real Tobacco Has Arrived	6 (1.0)
Post-MRTP	
Get IQOS Real Heated Tobacco is Here with Less Odor	62 (10.5)
IQOS Uses Heatsticks Made with Real Tobacco [§]	61 (10.3)
With Heat Control Technology Real Tobacco is Heated Never Burned	39 (6.6)
<i>Reduce your Body's Exposure to Harmful Chemicals^{§b}</i>	35 (5.9)
Why Make the Switch from Cigarettes to IQOS?	16 (2.7)
We Built a New Way to Enjoy Tobacco with Heat Control Technology	15 (2.5)
Real Heated Tobacco is Here with Less Odor	14 (2.4)
Purchase an IQOS Bundle with Same-Day Delivery in Select Cities [§]	11 (1.9)
IQOS Is the Only Tobacco Product of Its Kind	10 (1.7)
Too Busy to Make an Appointment? Experience IQOS at Home	10 (1.7)
Order an IQOS Bundle with Same-Day Delivery in Select Cities	6 (1.0)
Half Off! Use Promo Code Device50 At Getiqos.Com	3 (0.51)
Experience Heated Tobacco Sooner than Ever	2 (0.34)
<i>It's Not a Vape It's Not an E-Vape It's Real Tobacco with Less Odor and No Ash^c</i>	1 (0.17)

<p>^a 2nd highest adspend: \$1,294,900 (26.4% overall; 97.8% pre-MRTP)</p> <p>^dDescription: Black background with white text: "Meet IQOS® REAL TOBACCO NO ASH LESS ODOR" and <u>image</u> of black device and holder. Warnings included: Top of ad: "WARNING: This product contains nicotine. Nicotine is an addictive chemical." Bottom of ad: "SURGEON GENERAL'S WARNING: Smoking by Pregnant Women May Result in Fetal Injury, Premature Birth, and Low Birth Weight."</p>	<p>^b Highest adspend: \$3,395,900 (69.3% overall; 94.9% post-MRTP)</p> <p>^dDescription: White background with black text: "Reduce your body's exposure to harmful chemicals by switching completely from cigarettes to IQOS®. The IQOS® system heats tobacco but does not burn it. This significantly reduces the production of harmful and potentially harmful chemicals. Scientific studies have shown that switching completely from conventional cigarettes to the IQOS® system significantly reduces your body's exposure to harmful or potentially harmful chemicals. Learn more at getIQOS.com" and <u>image</u> of white device and three boxes of HeatSticks® (one grey, two turquoise – one labeled "Smooth Menthol") Warnings included: Top of ad: "WARNING: This product contains nicotine. Nicotine is an addictive chemical." Bottom of ad: "SURGEON GENERAL'S WARNING: Smoking by Pregnant Women May Result in Fetal Injury, Premature Birth, and Low Birth Weight."</p>	<p>^c 3rd highest adspend: \$155,800 (3.2% overall; 4.4% post-MRTP)</p> <p>^dDescription: White background with black text: "It's not a vape. It's not an e-cig. It's real tobacco with less odor and no ash. IQOS® IS THE ONLY PRODUCT OF ITS KIND THAT CAN MAKE THIS CLAIM. The IQOS® system heats tobacco but does not burn it. This significantly reduces the production of harmful and potentially harmful chemicals. Scientific studies have shown that switching completely from conventional cigarettes to the IQOS® system significantly reduces your body's exposure to harmful or potentially harmful chemicals. Want to learn more? Visit getIQOS.com" and with <u>image</u> of white holder and device and green and white Marlboro box. Warnings included: Top of ad: "WARNING: This product contains nicotine. Nicotine is an addictive chemical." Bottom of ad: "Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy."</p>
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* Run date beginning before July 7, 2020 (pre-MRTP) vs. after (post-MRTP).

§ Ad headline represents 2 unique ads.

† Contact corresponding author for ad images.

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Table 2.

Characteristics of Unique Ads (N=24), August 2019 to April 2021

Variable	Total N=24	Pre-MRTP* N=9	Post-MRTP N=15	p
	N (%) or M (SD)	N (%) or M (SD)	N (%) or M (SD)	
<i>Ad Headline Theme, N (%) §</i>				
Real tobacco	11 (45.8)	6 (66.7)	5 (33.3)	.113
Less odor/ash	7 (29.2)	3 (33.3)	4 (26.7)	.728
Switch	6 (25.0)	--	5 (33.3)	--
Same-day/home delivery	5 (20.8)	--	5 (33.3)	--
Convenience (e.g., use indoors)	4 (16.7)	--	4 (26.7)	--
Not burned/heat control	4 (16.7)	1 (11.1)	3 (20.0)	.572
Includes tag: Get IQOS	3 (12.5)	2 (22.2)	1 (6.7)	.265
Future	3 (12.5)	3 (33.3)	--	--
Innovation/Technology	3 (12.5)	1 (11.1)	2 (13.3)	.873
Reduced exposure	3 (12.5)	--	3 (20.0)	--
Enjoyment/satisfaction	1 (4.2)	1 (11.1)	--	--
Promotions (e.g., half off)	1 (4.2)	--	1 (6.7)	--
Science/research	1 (4.2)	--	1 (6.7)	--
Distinct from e-cigarettes	1 (4.2)	--	1 (6.7)	--
<i>Ad Visual/Image Theme, N (%)</i>				.451
Product	14 (58.3)	6 (66.7)	8 (53.3)	
Woman/Product	6 (25.0)	1 (11.1)	5 (33.3)	
Text	2 (8.3)	1 (11.1)	1 (6.7)	
Man/Product	1 (4.2)	--	1 (6.7)	
Woman/Man/Product	1 (4.2)	1 (11.1)	--	
<i>Spend per Ad (\$ in thousands), M (SD)</i>	204.3 (596.7)	147.9 (143.4)	238.1 (689.9)	.729
<i>Impressions per Ad (in thousands), M (SD)</i>	1051.5 (1350.8)	1546.1 (1798.1)	747.1 (944.3)	.218

*Run date beginning before July 7, 2020 (pre-MRTP) vs. after (post-MRTP).

§Not discrete categories.

Table 3.

Characteristics of Ad Occurrences (N=591), August 2019 to April 2021

Variable	Total N=591	Pre-MRTP* N=269	Post-MRTP N=322	p
	N (%) or M (SD)	N (%) or M (SD)	N (%) or M (SD)	
Media Type, N (%)				<.001
Online Display	500 (84.6)	253 (94.1)	247 (76.7)	
Print	47 (8.0)	11 (4.1)	36 (11.2)	
Mobile	44 (7.4)	5 (1.9)	39 (12.1)	
Ad Headline Theme, N (%) [§]				
Real tobacco	281 (47.5)	107 (39.8)	174 (54.0)	.001
Includes tag: Get IQOS	207 (35.0)	96 (35.7)	111 (34.5)	.758
Less odor/ash	124 (21.0)	48 (17.8)	76 (23.6)	.087
Switch	115 (19.5)	--	115 (35.7)	--
Future	108 (18.3)	108 (40.1)	--	--
Innovation/Technology	106 (17.9)	47 (17.5)	59 (18.3)	.789
Convenience (e.g., use indoors)	92 (15.6)	7 (2.6)	85 (26.4)	<.001
Not burned/heat control	80 (13.5)	5 (1.9)	75 (23.3)	<.001
Reduced exposure	45 (7.6)	--	45 (14.0)	--
Same-day/home delivery	29 (4.9)	--	29 (9.0)	--
Enjoyment/satisfaction	15 (2.5)	2 (0.7)	13 (4.0)	.011
Science/research	10 (1.7)	--	10 (3.1)	--
Promotions (e.g., half off)	3 (0.5)	--	3 (0.9)	--
Distinct from e-cigarettes	1 (0.2)	--	1 (0.3)	--
Ad Visual/Image Theme, N (%) ^a				<.001
Product	363 (61.4)	195 (72.5)	168 (52.2)	
Woman/Product	113 (19.1)	23 (8.6)	90 (28.0)	
Text	96 (16.2)	38 (14.1)	58 (18.0)	
Woman/Man/Product	13 (2.2)	13 (4.8)	--	
Man/Product	6 (1.0)	--	6 (1.9)	
New (vs. Recut/Same as), N (%)	350 (59.2)	131 (48.7)	219 (68.0)	<.001
Ad Size, N (%)*** ^b				<.001
Medium Rectangle	203 (34.4)	78 (29.0)	125 (38.8)	
Half Page Ad	153 (25.9)	115 (42.8)	38 (11.8)	
Custom Large	145 (24.5)	60 (22.3)	85 (26.4)	
Full	28 (4.7)	10 (3.7)	18 (5.6)	
Inside Front or Back Cover	18 (3.0)	1 (0.4)	17 (5.3)	
Media Channel Theme, N (%) ^{† c}				<.001
Technology	114 (19.3)	53 (19.7)	61 (18.9)	
Women's fashion	107 (18.1)	31 (11.5)	76 (23.6)	
Home	56 (9.5)	17 (6.3)	39 (12.1)	
Weather/news	53 (9.0)	36 (13.4)	17 (5.3)	

Variable	Total N=591	Pre-MRTP* N=269	Post-MRTP N=322	p
	N (%) or M (SD)	N (%) or M (SD)	N (%) or M (SD)	
Entertainment/pop culture/gaming	50 (8.5)	4 (1.5)	46 (14.3)	
Sports	34 (5.8)	29 (10.8)	5 (1.6)	
Finance/business	28 (4.7)	24 (8.9)	4 (1.2)	
Men's fashion	24 (4.1)	10 (3.7)	14 (4.3)	
Travel	22 (3.7)	4 (1.5)	18 (5.6)	
Yahoo	20 (3.4)	19 (7.1)	1 (0.3)	
Other	83 (14.0)	42 (15.6)	41 (12.7)	
<i>Spend per Occurrence (\$ in thousands), M (SD)</i>	8.3 (31.1)	4.9 (23.9)	11.1 (35.8)	.016
<i>Impressions per Occurrence (in thousands), M (SD)</i>	40.5 (109.6)	39.6 (120.2)	41.3 (99.4)	.852

* Run date began before July 7, 2020 (pre-MRTP) vs. after (post-MRTP).

[§] Not discrete categories.

[†] Not applicable for mobile.

^{a-c} All significant in pairwise tests *except*: ^atext; ^bcustom large and full; and ^cmen's fashion.

Table 4.

Adspend Across Dimensions of \$4.9 Million Total Adspend, 2019–2021

Variable	Total \$4,902,110 (100.0%)	Pre-MRTP* \$1,324,080 (27.0%)	Post-MRTP \$3,578,030 (73.0%)	p
	N (%) Cost to the \$000's	N (%) Cost to the \$000's	N (%) Cost to the \$000's	
Media Type				
Print	4846.5 (98.9)	1294.9 (97.8)	3551.7 (99.3)	.263
Online Display	43.2 (0.9)	29.0 (2.2)	14.2 (0.4)	.034
Mobile	12.4 (0.3)	0.2 (0.02)	12.2 (0.3)	.157
Ad Headline Theme				
Switch	3404.2 (69.4)	--	3404.2 (95.1)	--
Reduced exposure	3398.7 (69.3)	--	3398.7 (95.0)	--
Real tobacco	1472.9 (30.1)	1303.8 (98.5)	169.1 (4.7)	<.001
Less odor/ash	1464.5 (29.9)	1299.1 (98.1)	165.4 (4.6)	<.001
Distinct from e-cigarettes	155.8 (3.2)	--	155.8 (4.4)	--
Includes tag: Get IQOS	24.2 (0.5)	10.0 (0.8)	14.2 (0.4)	.489
Future	14.6 (0.3)	14.6 (1.1)	--	--
Convenience (e.g., use indoors)	10.2 (0.2)	0.3 (0.02)	10.0 (0.3)	.452
Innovation/Technology	9.0 (0.2)	4.5 (0.3)	4.5 (0.1)	.363
Not burned/heat control	8.4 (0.2)	0.1 (0.01)	8.2 (0.2)	.368
Science/research	2.8 (0.1)	--	2.8 (0.1)	--
Same-day/home delivery	1.0 (0.02)	--	1.0 (0.03)	--
Enjoyment/satisfaction	0.5 (0.01)	0.01 (0.01)	0.5 (0.01)	.423
Promotions (e.g., half off)	0.3 (0.01)	--	0.3 (0.01)	--
Ad Visual/Image Theme [§]				
Product	4877.2 (99.5)	1317.4 (99.5)	3559.8 (99.5)	<.001
Woman/Product	14.1 (0.3)	1.6 (0.1)	12.5 (0.4)	.269
Text	9.0 (0.2)	3.4 (0.3)	5.5 (0.2)	.886
Woman/Man/Product	1.6 (0.03)	1.6 (0.1)	--	--
Man/Product	0.3 (0.01)	--	0.3 (0.01)	--
Media Channel Theme				
Women's fashion	1284.6 (26.2)	414.0 (31.3)	870.7 (24.3)	.808
Entertainment/pop culture/gaming	1132.6 (23.1)	0.2 (0.02)	1132.4 (31.7)	.252
Men's fashion	900.9 (18.4)	499.8 (37.7)	401.1 (11.2)	.403
Weather/news	750.9 (15.3)	17.2 (1.3)	733.8 (20.5)	.003
Technology	519.3 (10.6)	383.3 (28.9)	136.0 (3.8)	.215
Finance/business	164.8 (3.4)	1.3 (0.1)	163.5 (4.6)	<.001
Travel	128.7 (2.6)	0.1 (0.01)	128.6 (3.6)	.646
Sports	3.3 (0.1)	3.1 (0.2)	0.2 (0.01)	.236
Home	2.6 (0.1)	0.5 (0.04)	2.1 (0.1)	.434
Yahoo	0.9 (0.02)	0.8 (0.1)	0.1 (0.01)	.239
Other	13.6 (0.3)	3.9 (0.3)	9.7 (0.3)	<.001

* Run date began before July 7, 2020 (pre-MRTP) vs. after (post-MRTP).

§ Not discrete categories.

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