Use Patterns Associated With Switching and Dual Use Among Current Consumers of MarkTen®XL E-vapor Products

Altria Client Services

Edward Largo, Ph.D., Megha Gupta, Ph.D., and Maria Gogova, M.D., Ph.D.

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Abstract

The vast majority of e-vapor consumers have prior history using cigarettes. Understanding how consumers who have switched from cigarettes to e-vapor products compare to those who use both and the impact of e-vapor use on cigarette use can provide useful insights for harm reduction. We conducted an online cross-sectional survey in spring, 2017 to characterize tobacco use patterns among adult ever-triers of MarkTen®XL e-vapor products (MT). Using non-probability sampling methods, we recruited respondents from online panels and a consumer database. We report results on an unweighted basis among those who report using MT every day (n=876) or some days (n=1,170) and in the past 30 days (total N=2,046 current MT users). Seventeen percent (17%) of current MT users report switching from cigarettes to ecigarettes, and 72% report current use of e-cigarettes and cigarettes. Switchers report more frequent use of MT in the past 30 days (M=25 days) than dual users (M=18 days). They also report more consumption of MT than dual users: 48% report 20 or more use occasions on days used (vs. 32%) and 42% report using 7 or more MT cartridges per week (vs. 19%). Among dual users, those who report using MT every day tend to use more MT than those who report using MT on some days: 48% report 20 or more use occasions on days used (vs. 25%) and 36% report using 7 or more MT cartridges per week (vs. 11%). At the same time, dual users who use MT every day smoke cigarettes less frequently (49% smoke cigarettes on 30 of the past 30 days compared to 67%) and smoke less on days they smoke (41% smoke 5 or less cigarettes compared to 18%). Furthermore, 83% of dual users who use MT every day and smoked before they used evapor report "now smoking fewer cigarettes than before" compared to 64% of their counterparts who use MT some days. These patterns are consistent with the top reasons dual users cite for currently using MT: "to satisfy nicotine cravings" (71%) and "to help cut back or quit smoking" (65%). These results suggest that more frequent use of e-vapor products can facilitate reductions in cigarette consumption and may ultimately lead to complete transitions from smoking.

Introduction

- Daily use of e-vapor products has been associated with increased smoking cessation^{1,2,3}
- Among individuals who use e-vapor products and smoke cigarettes, daily use of e-vapor products has been associated with reductions in cigarette smoking⁴
- This study contributes to the current body of evidence by
- Investigating these patterns among current consumers of a specific brand of e-vapor products, MarkTen®XL⁵, a replaceable-cartridge, "cig-a-like"-type e-vapor product
- Examining frequency and quantity of MarkTen®XL e-vapor product use between those who quit cigarettes completely (switchers) and dual users
- Exploring reasons for using MarkTen®XL e-vapor products among switchers and dual users

Objective

To characterize tobacco use patterns among current MarkTen®XL consumers, including:

- Proportion who report switching from cigarettes to e-vapor products (switchers) Proportion who dual use with e-vapor products and cigarettes (dual users)
- Use of MarkTen®XL e-vapor products among switchers vs. dual users
- Number of days used in the past 30 days
- Number of use occasions on days used
- Number of cartridges used per week Reasons for use

Cigarettes smoking among "every day" vs. "some days" MarkTen®XL e-vapor consumers who dual use with cigarettes

- Number of days smoking in the past 30 days
- Number of cigarettes smoked on days smoked
- Proportion that report smoking less now than prior to first trying e-cigarettes

References & Notes

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- Note: MarkTen®XL e-vapor products are currently in the marketplace as MarkTen® e-vapor products. Note: Current MarkTen®XL consumers are not necessarily exclusive users of the brand. In fact, our results showed only 43% of current MarkTen®XL consumers used
- using two or more other brands in the past 30 days.
- Note: Dual Users may be current users of other tobacco products. We focus on dual use with cigarettes as this is consistent with much of the research concerning e-
- vapor products and the potential for harm reduction. 8. Note: Percentages in Tables 2-5 may not add to 100 due to rounding.
- 9. Note: "Boxes" shown on tables are to facilitate oral presentation of results; no statistical significance is assigned.
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only MarkTen®XL e-vapor products in the past 30 days. Thirty-two percent reported using one other brand of e-cigarettes in addition to MarkTen®XL, and 25% reported

Method

Design & Procedure

- Cross-sectional, ~28-minute online survey
- Participants were recruited from (1) a consumer database by direct mail or e-mail invitation or from (2) one of nine online consumer research panels
- The survey was administered between April 19 and June 12, 2017
- Data were unweighted

Study Groups

- "Every Day" MarkTen®XL Consumers Adult consumers (legal age to purchase tobacco or older) who reported now using MarkTen®XL e-vapor products *every day* and in the past 30 days (n=876)
- "Some Days" MarkTen®XL Consumers Adult consumers who reported now using MarkTen®XL e-vapor products some days and in the past 30 days (n=1,170)

Final Study Group Sample Sizes by Recruiting Mode			
	Every DayMarkTen®XL	Some DaysMarkTen®XL	Total
Recruiting Mode	Consumers	Consumers	Total
Online consumer research panels	77	255	332
E-Mail to Consumer Database	470	268	738
Direct Mail to Consumer Database	329	647	976
Final Sample	876	1,170	2,046

Key Definitions

Current MarkTen®XL Consumers reported now using MarkTen®XL e-vapor products every day or some days and in the past 30 days (shown as "Total" in results tables). These consumers may have reported using other e-vapor product brands in addition to MarkTen®XL.6

Switchers – Current MarkTen®XL Consumers who reported:

- ✓ Having smoked 100 or more cigarettes in their lifetime
- ✓ Not quitting smoking cigarettes prior to first trying an e-cigarette
- ✓ Now smoking cigarettes not at all
- ✓ Having completely quit cigarettes after first trying an e-cigarette

Dual Users⁷ – Current MarkTen[®]XL Consumers who reported:

✓ Now smoking cigarettes every day or some days and in the past 30 days

Table 1. Switching and dual use among current MarkTen® XL consumers

Total	MarkTen®XL Consumers	Some Days MarkTen®XL Consumers
(n=2,046)	(n=876)	(n=1,170)
72 %	53%	85%
(1,465)	(468)	(997)
17%	30%	8%
(349)	(259)	(90)
	(n=2,046) 72% (1,465)	Total MarkTen®XL Consumers (n=2,046) (n=876) 72% 53% (1,465) (468) 17% 30%

Table 2. Number of days used MarkTen®XL e-vapor products during the past 30 days among current MarkTen®XL consumers8,9

Number of Days Used in Past 30	Switchers	Dual Users		
•	(n=349)	(n=1,465)		
1 - 2 days	1%	3%		
3 - 5 days	4%	11%		
6 - 9 days	3%	10%		
10 - 14 days	7%	16%		
15 - 19 days	6%	14%		
20 - 24 days	3%	12%		
25 - 29 days	4%	8%		
30 days	71%	26%		
Mean number of days	<i>25</i>	18		

Table 3. Number MarkTen®XL use occasions per day on days used and MarkTen®XL pre-filled cartridges used in a typical week among current MarkTen®XL consumers

MarkTen®XL E-Vapor Product Use Behavior	Switchers Dual Users	Among Dual Users		
		Every Day	Some Days	
	(n=349)	(n=1,465)	(n=468)	(n=997)
Number of MarkTen®XL use occasions per day on days used				
1 - 9	15%	35%	22%	41%
10 - 19	21%	20%	19%	21%
20 - 29	17%	12%	16%	10%
30 or more	32%	20%	32%	14%
Don't know	16%	13%	11%	14%
Number of MarkTen®XL cartridges used in a typical week				
Less than 1/1	13%	30%	15%	37%
2 - 3	20%	32%	27%	35%
4 - 6	24%	19%	23%	17%
7 - 9	19%	10%	16%	7%
10 or more	24%	9%	20%	4%

Table 4. Number of days smoked cigarettes during the past 30 days among

current MarkTen®XL consumers who also smoke cigarettes

Number of Days Smoking in Past 30 Among Dual Users	Total (n=1,465)	Every Day MarkTen®XL Consumers (n=468)	Some Days MarkTen®XL Consumers (n=997)
1 - 2 days	4%	9%	2%
3 - 5 days	5%	7 %	4%
6 - 9 days	3%	4%	3%
10 - 14 days	5%	8%	4%
15 - 19 days	5%	6%	5%
20 - 24 days	5%	6%	5%
25 - 29 days	10%	10%	9%
30 days	62%	49%	67%
Mean number of days	24	21	26

Table 5. Number of cigarettes smoked per day on days smoked and cigarettes smoked now compared to prior to first trying an e-cigarette among current MarkTen®XL consumers who also smoke cigarettes

Cimanatta Haara Daharian	Total	Every Day	Some Days
Cigarette Usage Behavior	Total	MarkTen®XL Consumers	MarkTen®XL
Among Dual Users	(n=1,465)	Consumers (n=468)	Consumers (n=997)
Number of cigarettes smoked per day on days	(co dy tody	(00 000)	(0. 221)
smoked			
Less than 1	4%	9%	2%
1 - 5	22%	32%	16%
6 - 9	10%	10%	10%
10	13%	11%	14%
11 - 19	27%	21%	30%
20 (one pack)	11%	7%	13%
21 - 29	6%	3%	7%
30+	8%	7%	8%
Mean number of cigarettes per day	13	11	14
Number of cigarettes smoked now compared to prior to first trying an e-cigarette	(n=1,416)	(n=443)	(n=973)
Now smoke fewer cigarettes per day	70%	83%	64%
Now smoke more cigarettes per day	3%	3%	3%
Has not changed	27%	14%	33%

Results

Table 6. Reasons for using MarkTen®XL e-vapor products

Reasons	Switchers	Dual Users
	(n=349)	(n=1,465)
To satisfy my nicotine cravings	81%	71%
To help prevent relapse	63%	15%
To not smell like smoke/not bother other people with smoke	60%	43%
It might be less harmful than cigarettes/other tobacco products	58%	29%
Enjoy the taste	53%	45%
Has a flavor I like	46%	39%
To help cut back or quit smoking/using other tobacco products	41%	65%
It might be less harmful for other people around me	40%	30%
More affordable than cigarettes/other tobacco products	37%	25%
To use in places where I cannot/shouldn't smoke	30%	60%
So I would not have to quit using tobacco products altogether	26%	16%
Advertising or promotion (e.g., magazine ad, sign in store, coupon)	23%	34%
Interested in using this type/brand of e-cigarette	20%	24%
Curiosity	9%	16%
All other reasons	3%	2%
Don't know	1%	1%

Discussion

- Consistent with prior research, a greater proportion of every day MarkTen®XL consumers than some days MarkTen®XL consumers reported switching from cigarettes to e-cigarettes
- Those who switched indicated higher frequency and quantity of MarkTen®XL e-vapor product use compared to those who dual used with cigarettes Among dual users, every day MarkTen®XL consumers generally used more MarkTen®XL e-vapor and smoked
- cigarettes less often and smoked less on days smoked than some days MarkTen®XL consumers However, a majority of both groups reported now smoking fewer cigarettes than they smoked prior to first trying ecigarettes
- To satisfy nicotine cravings was the top reason for using MarkTen®XL for both switchers and dual users. Beyond this reason, differences were observed between the user groups:
- To help prevent relapse was the second most endorsed reason among switchers
- To help cut back or quit smoking/using other tobacco products was the second most endorsed reason among dual

Strengths & Limitations

Strengths

- Design and recruiting methodology allowed for characterization of use behaviors relevant to consumers of a specific e-
- Measures provided an in-depth assessment of use patterns and behaviors

Limitations

- Non-probability sampling methods precludes population estimates
- Cross-sectional surveys do not allow observation of behavior change over time
- Data based on self-report are subject to recall error and bias
- Cross-sectional study design cannot address causality but rather associations

Conclusion

- The results suggest that more frequent use of e-vapor products is associated with reductions in cigarette consumption and can facilitate complete transitions from smoking.
- Future prospective observational studies can further elucidate the dual use state and provide insight into transitions to exclusive use of e-cigarettes.