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Point of Sale Tobacco Marketing to Youth in New York State

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Abstract

Purpose: To assess youth exposure to menthol versus non-menthol cigarette advertising, we examined whether menthol cigarette promotions are more likely in neighborhoods with relatively high youth populations.

Methods: We linked 2011 New York State Retail Advertising Tobacco Survey observational data with US Census and American Community Survey demographic data. Multivariable models assessed the relationship between neighborhood youth population and point-of-sale cigarette promotions for three brands of cigarettes, adjusting for neighborhood demographic characteristics including race/ethnicity and poverty.

Results: Menthol cigarette point-of-sale marketing was more likely in neighborhoods with higher proportions of youth, adjusting for presence of non-menthol brand marketing, neighborhood race/ethnicity, neighborhood poverty, and urban geography.

Conclusion: Data from the 2011 RATS study linked to block level census data clearly indicate that price reduction promotions for menthol cigarettes are disproportionately targeted to youth markets in New York State.

Keywords

disparities; advertising and promotion; surveillance and monitoring

INTRODUCTION

Menthols represent 32% of the US cigarette market, and rates of menthol cigarette smoking among youth are increasing despite overall declines in youth smoking.^{1–3} Progress in reducing youth smoking has likely been attenuated by the sale and marketing of mentholated cigarettes, including emerging varieties of established youth brands.³ Prior research

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demonstrates that price reduction is attractive to youth smokers, as they are more price sensitive than brand loyal,⁴ and higher levels of price discounting are apparent in areas with a high proportion of young people,⁵ but brand-specific marketing of menthols to youth is not well documented. While the Master Settlement Agreement (MSA) banned tobacco companies from marketing to youth, point-of-sale (POS) marketing and price reduction promotions remain unregulated in the USA. Industry uses these activities to target lower income customers, including youth.⁶⁻⁷ Understanding POS menthol marketing practices is important as the Food and Drug Administration considers banning menthol cigarettes.⁸ To assess youth exposure to menthol versus non-menthol cigarette advertising, we examined whether menthol cigarette promotions are more likely in neighborhoods with relatively high youth populations, among a representative sample of tobacco retailers across New York State.

METHODS

We analyzed data from the 2011 New York Retail Advertising Tobacco Study (RATS), an annual tobacco advertising and promotion assessment. The survey includes a stratified random sample of licensed New York State (NYS) tobacco retailers with post-stratification weighting, including a New York City (NYC) oversample. Exterior and interior POS promotions and store advertising are recorded separately. POS promotions included packs and cartons sold at reduced prices or buy-one-get-one free type offers for: Newport Green, Marlboro Red, and Doral. Each of these brands is an example of leading menthol, non-menthol and savings brands marketed in the United States. The CDC reports that Marlboro and Newport are two of the nation's most heavily advertised brands and are preferred brands of cigarettes smoked by young people.⁹ Marlboro holds 41% of the US market share, followed by Newport at 12%. Doral is a leading "savings brand" in the United States, made by R.J. Reynolds with limited marketing. (<http://www.rjrt.com/transforming-tobacco/what-we-make/>)

To identify variation in POS marketing by percentage youth population, census demographics were linked to store addresses using ArcGIS. We used 2010 Census demographic data on block group percentage black, white, Asian, Hispanic, and population under age 18; and 2010 American Community Survey data on the census tract percentage of families at or below poverty.

Descriptive statistics were calculated and chi square associations between percentage youth population, promotions for menthol and non-menthol brands, and demographics were estimated. Percentage youth was dichotomized on the statewide median (21%), distinguishing "high" from "low" youth block groups.

We regressed each retailer's neighborhood percentage population under age 18 onto presence of POS Newport Green marketing, adjusting for confounders. Interior and exterior promotions were modeled separately. Models adjusted for Marlboro Red and Doral promotions, race/ethnicity (percentage black, Asian, Hispanic), poverty, and NYC versus rest of state (ROS). Since percentage white was highly correlated with percentage black ($r=$

-.80), multivariable models excluded percentage white. Negative binomial regression accounted for over-dispersion in percentage under 18.

To account for complex sampling design and weighting, SAS 9.2 survey procedures were used for descriptive and bivariate analyses, and STATA 9 survey procedures for multivariable models. As a secondary analysis, no institutional review board approval was needed.

Results

Of the 3,819 sampled retailers, most were located in NYC (n=2,100). NYC block groups surrounding retailers were 21% under age 18, 32% Hispanic, 43% white, 24% black, 13% Asian, and 17% at or below the federal poverty line (FPL). ROS block groups were 21% under age 18, 14% Hispanic, 77% white, 11% black, 3% Asian, and 10% below FPL.

Statewide, 10.1% of retailers displayed exterior promotions for Newport Green; 11.5% displayed Marlboro Reds; and 1.0% displayed Doral. Nearly one third (29.5%) of NYS retailers displayed interior promotions for Newport Green; 40.5% displayed Marlboro Red; and 5.0% displayed Doral.

Bivariate analyses revealed significant ($p < .05$) associations between Newport Green promotions and high youth retailer location, but not Marlboro Red or Doral. In high youth areas 13.8% of retailers displayed Newport Green exterior promotions, compared with 6.4% in low youth areas. Similarly, 21.1% of retailers in low youth areas displayed Newport Green interior promotions, compared with 37.7% in high youth areas.

Associations between higher youth population and likelihood of Newport Green marketing were significant in multivariable analyses adjusting for Marlboro Red and Doral promotions, demographics, and region (Table 2). The population under 18 was 12% higher and 8.5% higher in block groups where exterior and interior Newport Green promotions were observed, respectively. No significant associations between youth population and Marlboro Red or Doral promotions existed.

DISCUSSION

Following release of the Family Smoking Prevention and Tobacco Control Act in 2009, the Tobacco Products Scientific Advisory Committee (TPSAC) was formed to study menthol use. TPSAC found convincing evidence that menthol cigarettes' availability increases the number of smokers by increasing the rate of smoking initiation (and reducing the rate of cessation).⁸ POS marketing within retail environments frequented by youth increases youth exposure to menthol cigarettes. NYS retailers with Newport Green promotions were more likely to be located in neighborhoods with high youth populations than those without, adjusting for non-menthol brand promotions, neighborhood race/ethnicity, poverty, and region. Our finding that POS promotions for menthol cigarettes are significantly associated with increased percentage of youth population suggests that age might be an important factor in marketing to specific neighborhoods. Findings parallel previous work relating POS

menthol promotions to school proximity, possibly explaining high prevalence of youth menthol smoking.⁴

We recognized two key limitations. First, only offers from Newport Green, Marlboro Red, and Doral were counted, resulting in a promotion undercount. However, Newport and Marlboro account for over 50% of the cigarette market share.⁹ Second, statewide results may not be generalizable to other regions or nationally.

The tobacco industry continues to circumvent MSA's prohibition of marketing to youth, especially for menthol products. Current restrictions may not adequately protect minors from menthol advertising. While Federal regulations are considered, jurisdictions have implemented efforts reducing availability and promotion of menthol products, given their attractiveness to youth.¹⁰ Chicago recently prohibited all menthol and flavored tobacco product sales within 500 feet of a school. NYC and Providence, Rhode Island recently prohibited all rebates, coupons, and buy-one-get-one-free offers. These are important steps in reducing the number of youth regularly exposed to tobacco marketing and, have potential to reduce youth smoking.

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ABBREVIATIONS:

MSA	Master Settlement Agreement
POS	Point of Sale
RATS	Retail Advertising Tobacco Study
NYS	New York State
NYC	New York City
FPL	Federal Poverty Line

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IMPLICATIONS AND CONTRIBUTIONS:

We demonstrated that menthol cigarette advertising and promotions were more likely to be found in neighborhoods with high youth population neighborhoods compared with promotions for two non-menthol brands. This suggests that proportion of youth is a predictor for point of sale marketing decisions, and should be included in future analyses.

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Table 1.

Prevalence of Point of Sale Promotions by High versus Low Youth Population

Retailer Characteristics	Exterior Promotions				Interior Promotions				
	< 21% Youth		>= 21% Youth		< 21% Youth		>= 21% Youth		
	overall	P Value	overall	P Value	overall	P Value	overall	P Value	
<i>Cigarette promos displayed</i>									
Any Marlboro Red (Yes versus no)	11.5	12.6	10.5	0.709	40.6	36.8	44.2	0.392	
Any Doral (non-menthol) (Yes versus no)	1.0	0.89	1.1	0.585	4.9	5.7	4.2	0.628	
Any Newport Green (Yes versus no)	10.1	6.4	13.8	0.007	29.5	21.1	37.7	0.000	

Table 2.

Association between point of sale promotions for cigarettes and percent of neighborhood population under age 18, multivariable negative binomial regressions, New York State RATS, 2011

Retailer Characteristics	Dependent Variable = Percentage under age 18, retailer's census block group (mean % under 18=21.1%, n=3819, # of strata = 53)									
	Exterior Promotions					Interior Promotions				
	Weighted Percent (SE)	Adjusted IRR	Linearized Std. Err.	95% Conf. Interval	p value	Weighted Percent (SE)	Adjusted IRR	Linearized Std. Err.	95% Conf. Interval	p value
<i>Cigarette promos displayed</i>										
Any Marlboro Red (Yes versus no)	11.5 (3.01)	.918	.113	.722-1.168	.487	40.5 (3.88)	1.027	.039	.955-1.104	.472
Any Doral (non-menthol) (Yes versus no)	1.0 (.19)	1.008	.069	.881-1.154	.903	5.0 (1.84)	.926	.074	.791-1.083	.335
Any Newport Green (Yes versus no)	10.1 (3.01)	1.120	.034	1.055-1.190	.000	29.5 (3.84)	1.085	.023	1.042-1.131	.000
<i>Demographic controls</i>										
Percentage black population, census block group	17.2 (1.10)	1.004	.000	1.003-1.005	.000	17.2 (1.10)	1.004	.001	1.003-1.005	.000
Percentage Asian population, census block group	7.7 (.44)	1.005	.001	.998-1.003	.607	7.7 (.44)	1.000	.001	.998-1.003	.777
Percentage Hispanic population, census block group	21.8 (1.30)	1.005	.001	1.003-1.006	.000	21.8 (1.30)	1.005	.001	1.003-1.006	.000
Percentage of population below Federal poverty line, census tract	13.4 (.91)	1.007	.002	1.004-1.011	.000	13.4 (.91)	1.007	.002	1.003-1.010	.000
NYC location (versus rest of state)	45.8 (.02)	.792	.031	.734-.854	.000	45.8 (.02)	.781	.031	.724-.844	.000

Bold text indicates p<0.05.