

Menthol cigarettes in black neighbourhoods: still cheaper after all these years

BACKGROUND

California was the second US state to adopt a law to end the sale of most flavoured tobacco products (including menthol) in August 2020.¹ However, a tobacco industry front group submitted more than 625 000 validated signatures to challenge the law on a ballot referendum in November 2022. One hundred local laws that restrict sales of flavoured

tobacco protected 22.1% of California's population as of February 2021,^{2 3} and the state aims to increase this coverage. In addition, stronger support for the state-wide law is anticipated where local laws exist.⁴ Prior evidence of more advertising and lower prices for menthol cigarettes at stores in neighbourhoods with a greater proportion of black residents in California and in the USA suggests a history of predatory marketing.⁵⁻⁷ This secondary analysis tests whether these patterns persist in California. This research is important because California's law is more comprehensive than the anticipated federal ban on menthol cigarettes and flavoured

cigars, and the state law would be enacted sooner.

METHODS

Trained professionals recorded the presence of interior or exterior advertising for menthol and non-menthol cigarettes and the single-pack price for Newport (menthol) and Marlboro red (non-menthol) in a random sample of 1199 licensed tobacco retailers from April to September 2018 (94.4% completion rate). The analysis sample of stores that sold cigarettes (n=1115) was 49.9% convenience stores, 14.3% liquor stores, 8.2% tobacco/head shops, 9.3% supermarkets,

Table 1 Neighbourhood correlates of the presence of menthol/non-menthol cigarette advertising and price: California, 2018

	Menthol cigarettes advertised, among stores that sold cigarettes (n=1115)		Non-menthol cigarettes advertised, among stores that sold cigarettes (n=1115)		Newport menthol price (n=944)		Marlboro non-menthol price (n=1083)		
	AOR	95% CI	AOR	95% CI	Coef.	95% CI	Coef.	95% CI	
Constant	0.89		2.00		8.86		8.77		
Store type									
Convenience store*	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	
Liquor store	0.38	0.26 to 0.56	0.65	0.43 to 0.98	0.28	0.12 to 0.44	0.26	0.12 to 0.40	
Pharmacy	2.92	1.20 to 7.09	0.38	0.21 to 0.68	0.00	-0.23 to 0.24	-0.35	-0.57 to 0.14	
Small market	0.17	0.10 to 0.28	0.25	0.16 to 0.40	0.58	0.36 to 0.79	0.34	0.16 to 0.52	
Supermarket	0.59	0.37 to 0.93	0.24	0.16 to 0.38	1.36	1.17 to 1.56	0.19	0.02 to 0.35	
Tobacco/head shops	1.16	0.67 to 2.02	1.54	0.81 to 2.92	0.02	-0.18 to 0.22	-0.24	-0.42 to 0.07	
Discount/other	0.28	0.15 to 0.50	0.20	0.11 to 0.35	0.24	-0.06 to 0.53	0.41	0.19 to 0.64	
Race/ethnicity, %, quartile 1 is the referent category									
Black									
Quartile 2 (1.09%–2.77%)	1.03	0.70 to 1.52	0.93	0.62 to 1.40	-0.11	-0.27 to 0.06	-0.12	-0.26 to 0.02	
Quartile 3 (2.78%–6.47%)	1.51	1.00 to 2.28	1.47	0.95 to 2.26	-0.22	-0.39 to 0.06	-0.09	-0.23 to 0.05	
Quartile 4 (6.48%–74.88%)	1.86	1.20 to 2.87	0.98	0.64 to 1.52	-0.25	-0.42 to 0.08	-0.07	-0.22 to 0.08	
Asian/Pacific Islander									
Quartile 2 (3.10%–7.56%)	1.23	0.82 to 1.84	0.87	0.57 to 1.31	0.09	-0.07 to 0.25	0.10	-0.04 to 0.24	
Quartile 3 (7.57%–15.37%)	1.03	0.67 to 1.57	0.89	0.57 to 1.37	0.18	0.01 to 0.35	0.11	-0.04 to 0.25	
Quartile 4 (15.38%–79.80%)	0.97	0.63 to 1.49	0.79	0.51 to 1.24	0.11	-0.06 to 0.29	0.19	0.04 to 0.34	
Other/AlAN/multiracial									
Quartile 2 (1.83%–3.14%)	1.29	0.83 to 2.01	1.25	0.79 to 1.97	-0.08	-0.25 to 0.10	0.00	-0.15 to 0.15	
Quartile 3 (3.15%–4.55%)	1.08	0.67 to 1.75	1.19	0.72 to 1.96	0.04	-0.15 to 0.23	0.01	-0.16 to 0.17	
Quartile 4 (4.56%–25.51%)	0.99	0.59 to 1.65	1.01	0.60 to 1.70	-0.04	-0.25 to 0.16	0.00	-0.18 to 0.17	
Hispanic									
Quartile 2 (19.44%–35.34%)	1.05	0.69 to 1.60	1.02	0.66 to 1.57	-0.07	-0.24 to 0.10	-0.15	-0.29 to 0.00	
Quartile 3 (35.35%–58.86%)	0.75	0.45 to 1.25	0.78	0.46 to 1.31	-0.04	-0.24 to 0.16	-0.11	-0.29 to 0.06	
Quartile 4 (58.87%–98.52%)	0.56	0.29 to 1.08	0.66	0.34 to 1.30	-0.14	-0.40 to 0.12	-0.11	-0.33 to 0.12	
Age, %, quartile 1 is the referent category									
School-age youth, 5–17 years									
Quartile 2 (14.07%–16.90%)	2.47	1.65 to 3.71	1.77	1.17 to 2.66	-0.21	-0.37 to 0.05	-0.16	-0.30 to 0.02	
Quartile 3 (16.91%–20.15%)	2.06	1.35 to 3.12	1.81	1.18 to 2.78	-0.20	-0.37 to 0.04	-0.23	-0.38 to 0.09	
Quartile 4 (20.16%–30.04%)	3.06	1.88 to 4.99	2.60	1.58 to 4.27	-0.13	-0.31 to 0.06	-0.15	-0.31 to 0.02	
Young adult, 18–24 years									
Quartile 2 (7.85%–9.93%)	1.62	1.08 to 2.44	1.49	0.99 to 2.25	-0.14	-0.30 to 0.02	-0.09	-0.23 to 0.05	
Quartile 3 (9.94%–11.78%)	1.82	1.14 to 2.89	1.96	1.22 to 3.16	-0.15	-0.33 to 0.04	-0.19	-0.35 to 0.03	
Quartile 4 (11.79%–67.44%)	1.82	1.13 to 2.93	2.01	1.23 to 3.27	-0.20	-0.39 to 0.01	-0.13	-0.30 to 0.03	
Poverty, <185% FPL, %, quartile 1 is the referent category									
Quartile 2 (22.62%–35.31%)	1.32	0.85 to 2.04	1.17	0.75 to 1.82	-0.03	-0.20 to 0.14	-0.06	-0.21 to 0.08	
Quartile 3 (35.32%–48.70%)	0.93	0.58 to 1.49	0.79	0.49 to 1.28	-0.05	-0.24 to 0.13	-0.03	-0.19 to 0.13	
Quartile 4 (48.71%–83.69%)	0.62	0.37 to 1.06	0.59	0.35 to 1.00	0.02	-0.19 to 0.24	-0.01	-0.20 to 0.17	

Race categories are non-Hispanic. Census measures are quartiled based on entire study sample, n=1199. Price per single-pack purchase, excluding sales tax. Inter-rater reliability was kappa=0.46 and 0.63 for menthol and non-menthol advertising, respectively, and the intraclass correlations for prices were 0.76 for Newport and 0.80 for Marlboro.

Coefficients in bold are significant at p<0.05.

*Convenience stores do not sell uncooked meat (other than bacon). Small markets sell uncooked meat and/or produce and have fewer than three cash registers.

AlAN, American Indian Alaskan Native; AOR, adjusted odds ratio; FPL, federal poverty level.

8.2% small markets, 5.1% pharmacies and 5.0% discount/other stores.

Store neighbourhoods were defined by half-mile, store-centred roadway buffers and linked to census tract estimates from the American Community Survey (2012–2016). Logistic regressions for the presence of advertising and ordinary least squares regressions for price included covariates: percentage of non-Hispanic black, Asian/Pacific Islander, Hispanic, American Indian, Alaskan Native and other/multi-racial; percentage of school-age children (5–17 years) and young adults (18–24 years); and percentage of population with income <185% of the federal poverty level. All models also controlled for store type.

RESULTS

Menthol cigarettes were advertised in 66.1% and non-menthol in 70.8% of 1115 stores that sold cigarettes. Stores in neighbourhoods with greater proportions of black residents were significantly more likely to advertise menthol cigarettes than stores in neighbourhoods with the lowest proportion of black residents—quartile 3: adjusted OR (AOR)=1.51, 95% CI=1.00 to 2.28; quartile 4: AOR=1.86, 95% CI=1.20 to 2.87 (see [table 1](#)). Average single-pack prices were US\$8.66 (SD=0.94) for Newport menthol and US\$8.50 (SD=0.81) for Marlboro red. Compared with stores in neighbourhoods with the lowest proportion of black residents, Newport cost an estimated US\$0.22 and US\$0.25 less in neighbourhoods with higher proportions of black residents, equivalent to approximately 0.25 SD (see [table 1](#)).

DISCUSSION

Controlling for store type, neighbourhood poverty and other covariates, California tobacco retailers were more likely to advertise menthol cigarettes and charged less for the most popular brand, Newport, in neighbourhoods with greater proportions of black residents. These patterns were not observed for non-menthol cigarette ads or Marlboro price; they were unique to menthol. The findings are consistent with systematic reviews about

area-level disparities in cigarette advertising and menthol prices.^{8,9}

California's sales restriction on flavoured tobacco is expected to alleviate concerns about predatory marketing of menthol cigarettes, as well as promote smoking cessation and reduce initiation.^{10,11} In the USA, the prevalence of smoking menthol cigarettes in California is highest (68%) among black adult smokers,¹² which suggests that the state law could reduce racial inequalities in smoking prevalence and smoking-attributable deaths.¹³ Continued state and local efforts to restrict sales of menthol and other flavoured tobacco are necessary to fill the years-long gap between the US Food and Drug Administration's intention to ban menthol and its regulatory action.

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