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Disparities in retail marketing for menthol cigarettes in the United States, 2015

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ABSTRACT

This study describes retail marketing for menthol cigarettes and its relationship with neighborhood demographics in a national sample of tobacco retailers in the United States. Mixed-effects models were used to examine three outcomes: menthol cigarette exterior advertising, menthol cigarette price promotions, and the pack price of menthol and non-menthol cigarettes. Thirty-eight percent of retailers displayed at least one menthol advertisement on the store exterior and 69% advertised price promotions. Retail advertising was more common in neighborhoods in the second (OR = 1.5 [1.1, 2.0]) and fourth (OR = 1.9 [1.3, 2.7]) quartiles of Black residents as compared to the lowest quartile. Menthol advertising was more prevalent in the third (OR = 1.4 [1.0, 1.9]) and lowest (OR = 1.6 [1.2, 2.2]) income quartiles as compared to the highest quartile. Price promotions for Newport were more common in neighborhoods with the highest quartile of Black residents (OR = 1.8 [1.2, 2.7]). Prices of Newport were cheaper in neighborhoods with the highest quartiles of youth, Black residents, and lower-income households. Policies that restrict the sales and marketing of menthol cigarettes are needed to address disparities.

1. Introduction

Smoking is the leading cause of preventable death in the United States (US), responsible for more than 480,000 deaths per year (US Department of Health and Human Services, 2014). Thirty-nine percent of smokers in the US use menthol cigarettes (Villanti et al., 2016). Menthol is an organic compound that can provide anesthetic and cooling effects when added to cigarettes (Tobacco Products Scientific Advisory Committee, 2011). The local anesthetic effects are thought to come from blockade of pain receptors on skin and mucosal surfaces, such as the lining of the mouth and throat (Ahijevych and Garrett, 2004). Stimulation of cold receptors on these surfaces are believed to be responsible for the cooling effects, felt in several areas of the body. Historically marketed as providing therapeutic benefit, menthol cigarettes were portrayed as healthier than non-menthol cigarettes (Anderson, 2011; Samji and Jackler, 2008), and a recent study found that 7% of menthol smokers believe their brand is less harmful than others (Cohn et al., 2018), despite research suggesting the opposite. The analgesic and cooling effects of menthol help to mask the harshness of cigarette smoke, allow for deeper inhalation of harmful constituents

and provide additional reinforcing properties to cigarettes (Gardiner and Clark, 2010). In 2011 the Tobacco Products Scientific Advisory Committee, a Congressionally mandated committee to advise the US Food and Drug Administration (FDA) Center for Tobacco Products, concluded that menthol increases smoking initiation and makes cigarette smoking more difficult to quit (Tobacco Products Scientific Advisory Committee, 2011). Simulation modeling suggests that from 2011 to 2050 an estimated 633,252 smoking-attributable deaths in the US would be averted if menthol were removed from the market (Levy et al., 2011).

The prevalence of menthol smoking is higher among youth, Black, Hispanic, Asian, and low-income smokers, and those with serious mental illness (Corey et al., 2015; Villanti et al., 2016; Young-Wolff et al., 2015). In 2014, approximately half (54%) of middle and high school student smokers smoked menthol cigarettes (Corey et al., 2015). In 2012–2014, 85% of Black, 47% of Hispanic, and 38% of Asian smokers used menthol cigarettes, as compared to only 29% of non-Hispanic White smokers (Villanti et al., 2016). Menthol smoking also differs by household income: 44% of smokers with incomes less than \$30,000 used menthol cigarettes as compared to 32% of smokers with

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household incomes of \$75,000 or more (Villanti et al., 2016). In a recent sample of adult smokers with serious mental illness, 57% used menthol cigarettes (Young-Wolff et al., 2015).

Disparities in menthol use may be related to disproportionate retail marketing of menthol cigarettes in areas where these groups reside. “Racialized geography,” or the interaction between race, class, and place, has been used to explain the tobacco industry’s retail marketing practices that targets groups according to race/ethnicity and socioeconomic status (Yerger et al., 2007). Groups of individuals with similar racial/ethnic and socioeconomic backgrounds tend to live near each other (Frey, 2015; Fry and Taylor, 2012). This segregation can facilitate segmentation of a consumer base and allow for targeted retail marketing according to neighborhood demographic characteristics (Ribisl et al., 2017a). In 2015, the largest tobacco companies allocated \$8.2 billion to market cigarettes and discount prices, and 91.5% of these expenditures were concentrated in the retail environment (Federal Trade Commission, 2017). Retail marketing includes store advertising, such as placing tobacco company branding on store exteriors, and offering price discounts and special promotions, such as buy one get one free deals (Henriksen, 2012). Exposure to retail cigarette marketing has been associated with smoking initiation among youth, as well as brand preference, greater cravings for cigarettes, more impulse buys, fewer quit attempts and more relapse among adults (Choi et al., 2017; Kirchner et al., 2013; Paynter and Edwards, 2009; Wakefield et al., 2008).

2. Retail advertising for menthol cigarettes

Previous studies provide strong evidence of more retail advertising for menthol cigarettes in neighborhoods with more Black residents (Laws et al., 2002; Moreland-Russell et al., 2013; Pucci et al., 1998; Seidenberg et al., 2010; Widome et al., 2013). For example, in the Midwest a 10% increase in the African American/Black population of a census block group was associated with 26% more menthol advertisements in stores (Widome et al., 2013). Targeted retail advertising parallels previous menthol marketing to Black residents through other channels such as billboards and tobacco industry sponsorships of community events in Black neighborhoods (Altman et al., 1991; Hafez and Ling, 2006). Research on the relationship between retail advertising for menthol cigarettes and other racial/ethnic compositions of neighborhoods is more limited. In Boston two studies found retail advertising for menthol brands heavily concentrated in Latino neighborhoods (Laws et al., 2002; Pucci et al., 1998). In Minnesota counties more retail menthol advertisements were associated with a higher percentage of Black residents and a lower percentage of White residents, but not with the percentage of Hispanic or Asian residents (Widome et al., 2013).

Studies also find that retail advertising for menthol cigarettes varies by neighborhood characteristics related to youth and socioeconomic disadvantage. In California more retail advertising has been documented near schools with more Black students and in areas with a greater proportion of school-age youth (Henriksen et al., 2012). In St. Louis, Missouri, areas with more Black youth have more stores with retail menthol advertising near candy (Moreland-Russell et al., 2013). More retail advertisement for menthol was also found in neighborhoods with greater socioeconomic disadvantage in Ramsey and Dakota counties, Minnesota (Widome et al., 2013) and in Boston, Massachusetts (Laws et al., 2002; Seidenberg et al., 2010). Much of this research has focused on specific states, counties or cities. These studies, however, can only assess the demographic variation reflected in those specific locations and may not generalize to other areas.

3. Menthol cigarette price promotions and pack price

Some studies have examined relationships between price promotions for menthol cigarettes and neighborhood demographics. Such

promotions have been shown to be more common in New York and California neighborhoods with a higher proportion of youth (Henriksen et al., 2012; Waddel et al., 2016) and near California schools with a higher proportion of Black students (Henriksen et al., 2012).

More studies have examined relationships between the price of menthol cigarettes and neighborhood demographics, but the findings are not consistent. In two California samples Newport menthol prices were lower in areas with more Black students (Henriksen et al., 2012) and residents (Henriksen et al., 2016), but another study in California found prices were not related to the proportion of Black residents (Lippman-Kreda et al., 2014). There is also some evidence of lower prices for Newport cigarettes in areas with more Asian/Pacific Islander (Asian/PI) residents (Henriksen et al., 2016), and higher prices in areas with more Hispanic residents (Lippman-Kreda et al., 2014), but these findings have not been replicated. Cheaper prices for Newport cigarettes were also found in areas with more youth in US and California samples, but price for an unspecified brand of menthol cigarettes was not associated with the percentage of the population that was non-White or youth in Minneapolis-St. Paul, Minnesota (Toomey et al., 2009).

To date, a growing body of literature demonstrates that retail marketing for menthol cigarettes targets youth, ethnic minority, and low-income populations. However, much of this research has been conducted in single states or smaller regions and is limited to study of a single menthol brand. The research on menthol prices and promotions often examines Newport because it is the leading menthol brand and the cigarette brand preferred by the majority of Black smokers (Giovino et al., 2013; Sharma et al., 2016). However, it is not known whether neighborhood variation in price promotions is unique to Newport or whether it also occurs for menthol varieties of Marlboro and Camel (Sharma et al., 2016; Tobacco Products Scientific Advisory Committee, 2011). The present study is the first to compare price promotions across the three leading brands of menthol cigarettes. It also examines neighborhood variation in the price of the leading menthol and non-menthol cigarette brands, Newport Full Flavor and Marlboro Red cigarettes, to assess where manufacturer retail marketing strategies may diverge. Furthermore, examining relationships between neighborhood demographics with price and promotions in a broader geography may help clarify prior conflicting findings.

Previous studies have also been limited by focusing only on main effect relationships between neighborhood demographic characteristics and retail marketing for menthol cigarettes. Examining the interplay between neighborhood demographic characteristics such as racial/ethnic demographic composition and median household income may be critical to better understanding tobacco industry retail marketing for menthol cigarettes.

3.1. Present study

The present study describes menthol cigarette marketing in a representative sample of US tobacco retailers and examines associations with census tract measures of median household income and percentages of youth, Black, Asian/PI, and Hispanic residents. This study aims to extend what is known about retail marketing for menthol cigarettes in three important ways: 1) by assessing whether relationships between retail menthol marketing and neighborhood demographics that were previously established in smaller geographies generalize to a national sample; 2) by examining neighborhood demographic characteristics that have been less studied and investigating potential interactions among neighborhood demographic characteristics; and 3) by comparing relationships between marketing and neighborhood demographics across leading cigarette brands.

4. Methods

Data for this study come from a national store audit study conducted

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