

Original Investigation

# Predictors of Cessation Pharmacotherapy Use Among Black and Non-Hispanic White Smokers

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## Abstract

**Introduction:** Use of pharmacotherapy for smoking cessation improves quit rates, but these treatments are underutilized, particularly among Black smokers. Attitudes toward pharmacotherapy may differ between racial/ethnic minorities and Caucasian smokers. It was hypothesized that Black and non-Hispanic White smokers would differ in their attitudes toward pharmacotherapy and that the association between attitudes toward and actual use of pharmacotherapy would differ by race.

**Methods:** The study consisted of a single, cross-sectional telephone-based survey of current smokers ( $N = 697$ ), which examined the relationship between race, attitudes toward pharmacotherapy, and pharmacotherapy usage in a representative bi-racial sample (39% Black).

**Results:** Black smokers were significantly less likely to report ever use of pharmacotherapy (23%) than Caucasians (39%; odds ratio [OR] = 0.46; 95% CI: 0.33–0.66). Compared with Caucasians, Blacks had significantly less favorable attitudes toward pharmacotherapy, including disbelief about efficacy ( $p = .03$ ), addiction concerns ( $p = .03$ ), harmfulness of pharmacotherapy ( $p = .008$ ), and need for treatment of any kind to quit smoking ( $p = .004$ ). In a multiple logistic regression, racial group (Caucasian is referent: OR = 0.55,  $p = .003$ ), addiction concerns (OR = 0.80,  $p < .01$ ), and need for treatment of any kind to quit smoking (OR = 1.52,  $p < .001$ ) were predictive of pharmacotherapy use.

**Conclusions:** These findings replicate and build upon previous research demonstrating underutilization of pharmacotherapy and enduring misconceptions about pharmacotherapy, particularly among Black smokers. Regardless of racial group, misconceptions about pharmacotherapy are related to lower rates of use. Efforts to improve understanding about the efficacy and safety of these products are needed to boost utilization and impact cessation rates.

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## Introduction

Despite significant advances in tobacco control, smoking-related health disparities continue to remain prominent in the U.S. Blacks in particular suffer from disproportionate rates of tobacco-related morbidity and mortality (American Cancer Society, 2007; U.S. Department of Health and Human Services [U.S. DHHS], 1998). Compared with non-Hispanic White smokers, they endure a higher incidence of and mortality from both tobacco-related cardiovascular disease (American Heart Association, 2002; Centers for Disease Control and Prevention, 2002) and cancer (Abidoye, Ferguson, & Salgia, 2007; American Cancer Society, 2007; Kosary et al., 1995; U.S. DHHS, 1998). However, despite evidence to suggest that greater than 70% of Black smokers report wanting to quit smoking (U.S. DHHS, 1998) and additional data showing that Blacks are more likely to make a quit attempt than non-Hispanic Whites (Fiore et al., 1989; Fu et al., 2005; Giovino et al., 1994; U.S. DHHS, 1998), they are less likely to achieve abstinence (Giovino, 2002). The quit ratio (proportion of ever-smokers who have quit) remains consistently lower among Black smokers (King, Polednak, Bendel, Vilsaint, & Nahata, 2004).

There are extensive empirical data documenting the clinical significance of pharmacotherapy for smoking cessation (Fiore et al., 2008; Silagy, Lancaster, Stead, Mant, & Fowler, 2004). Nicotine replacement therapy (NRT) in particular has over a decade of research documenting its efficacy estimated to double a smoker's chance of quitting. NRT has been shown to be equally effective for both Black and White smokers (Fu, Burgess, et al., 2008; Robles, Singh-Franco, & Ghin, 2008). Despite this evidence, the population impact of pharmacotherapy has been modest (Pierce & Gilpin, 2002), and the majority of smokers report having never tried any form of NRT. For example, data from the National Health Interview Survey demonstrate that 78% of the 4,000 smokers surveyed reported never using pharmacotherapy (Cokkinides, Ward, Jemal, & Thun, 2005).

Importantly, minority smokers are even less likely to use medications than Caucasians (Cokkinides, Halpern, Barbeau, Ward, & Thun, 2008; Fu et al., 2008; Shiffman, Brockwell, Pillitteri, & Gitchell, 2008; Zhu, Melcer, Sun, Rosbrook, & Pierce, 2000). For example, results of a recent population survey found rates of pharmacotherapy use (including NRT and prescription bupropion) for the most recent quit attempt to be significantly lower among Black smokers (17%) compared with White smokers (29%; Shiffman, Brockwell, et al., 2008). Results of another recent population survey found rates of use of any cessation quit aid (inclusive of both pharmacotherapy and behavioral support) for a quit attempt in the past year to be significantly lower among Black smokers (22%) compared with White smokers (34%; Stahre, Okuyemi, Joseph, & Fu, 2010). Discrepancies in use of pharmacotherapy hold even within an equal-access health care system, where cost barriers are removed. For example, one study within the Veteran's Administration (where provision of NRT is free) found that only 34% of Black versus 50% of Caucasian smokers ever used NRT; use during a past-year quit attempt was 20% and 34%, respectively (Fu et al., 2005). Thus, barriers other than cost inhibit usage.

If quit rates are to improve, further examination of reasons for underutilization of pharmacotherapy for smoking cessation is necessary, particularly among Black smokers. Several studies have examined attitudes toward pharmacotherapy within the general population. Results have typically shown that misconceptions about pharmacotherapy follow two themes: (a) beliefs about efficacy and (b) beliefs about safety, which include concerns about side effects, risks of nicotine itself, and/or concerns about abuse liability (Etter & Perneger, 2001; Mooney, Leventhal, & Hatsukami, 2006; Vogt, Hall, & Marteau, 2008). However, while many smokers are misinformed about NRT safety and efficacy (Shiffman, Ferguson, Rohay, & Gitchell, 2008), few studies have either (a) examined attitudes toward pharmacotherapy specifically among Black smokers or (b) offered racial/ethnic comparisons of attitudes. Studies that focus on race-specific attitudes toward NRT are often qualitative in nature. For example, one recent study of 33 Black smokers in a cessation program in which NRT was freely available noted significant concerns about increased nicotine dependence from NRT and lack of control over drug delivery and absorption (Yerger, Wertz, McGruder, Froelicher, & Malone, 2008). Other qualitative studies have shown concerns about the medication side effects to be a barrier to using NRT among Black smokers (Fu et al., 2007).

Surprisingly, few population-based surveys complement the previous qualitative studies with explicit racial/ethnic comparisons regarding attitudes toward pharmacotherapy. We found one exception, a large population-based quantitative study, which showed that non-White smokers (20% of the total study population) were more likely to have concerns about the safety and efficacy of NRT. However, this did not include explicit examination of Black smokers (Shiffman, Ferguson, et al., 2008). Another study demonstrated that Black smokers were significantly less knowledgeable about the safety and efficacy of smoking cessation medications than non-Hispanic White smokers (Cummings et al., 2004). However, Black smokers represented just 8% of the total study population.

The purpose of the current study was to further compare and contrast attitudes toward pharmacotherapy among Black

and non-Hispanic White smokers. Our analysis is based on a representative bi-racial sample of South Carolina current smokers, oversampled (39%) for Blacks. Our rationale for focusing exclusively on South Carolina smokers was threefold. First, Blacks make up 30% of the state population as compared with 12% of the general U.S. population (www.census.gov). Second, South Carolina is a state with a heavy cancer burden and with strong smoking-related health disparities (Alberg et al., 2006). Third, South Carolina has a meager tobacco control climate, which until recently (July 2010) included the lowest excise tax for tobacco in the nation, and no current statewide comprehensive smoke-free legislation. While our results may be state specific, we believe the large sample size ( $N = 697$ ) and the enhanced focus on Black smokers add strength to our findings and may add generalizability to the broader population. Our aims were as follows: (a) confirm prior reports that have documented lower rates of pharmacotherapy use among Black versus non-Hispanic White smokers, (b) test the hypothesis that Black smokers and non-Hispanic White smokers would differ in their attitudes toward pharmacotherapy, and (c) test the hypothesis that the association between attitudes toward pharmacotherapy and actual use of pharmacotherapy would differ by race.

## Methods

### Overview

The study consisted of a single, cross-sectional telephone-based survey of South Carolina current smokers ( $N = 732$ ). Of these, 426 declared themselves to be non-Hispanic White. Of the remainder ( $n = 306$ ), Blacks were the most predominant ( $n = 271$ ; 89%), and the remainder of our analysis herein focuses exclusively on Black and non-Hispanic White current smokers. The survey was conducted using CATI technology for survey administration, following a carefully defined protocol. Each respondent was compensated with a \$10 gift card (mailed).

### Participants

Participants were recruited via random digit dialing (RDD) methodology using GENESYS Sampling Systems. GENESYS supports RDD telephone sampling for any geographic area down to census tract levels, including state, county, metropolitan statistical area, zip code, time zone, etc. The GENESYS system also contains telephone exchange-level estimates for over 48 demographic variables (e.g., race and income distributions). The GENESYS System is made up of several databases and sample generation algorithms and contains over 48,000 residential telephone exchanges along with demographic estimates of the population served by each exchange. This specificity allows for focused recruitment based on demographic profiles to ensure sufficient recruitment of minority populations.

Once a household was reached, survey staff determined survey eligibility and initiated the survey. Eligibility was broad, inclusive of any adult (age 18+), English-speaking ever-smoker (defined as having smoked 100+ cigarettes in lifetime). For the present analysis, current smokers were defined as having smoked  $\geq 1$  day in the prior thirty days. Households with  $>1$  available ever-smoker in the home were restricted to one respondent (based on next birthday method). Eligibility and completion rates were not tracked.

## Survey

To enhance participation in the phone-based survey, assessments were limited to less than 10 min. All respondents were asked basic demographic questions (race, gender, age, and education), cigarettes smoked per day, days smoked in the past thirty days, lifetime quit attempts, ever usage of pharmacotherapy, and attitudes toward pharmacotherapy. Pharmacotherapy ever usage was based on a yes/no response per product (five NRT products, plus bupropion and varenicline). Our focus on these seven “frontline” medications was based on United States Public Health Service guidelines (Fiore et al., 2008); other “second-line” medications for smoking cessation do exist, but usage was expected to be too low to warrant inclusion here. We are aware of no established, short phone-friendly (i.e., with simple response formats) scales to examine attitudes toward pharmacotherapy. Therefore, we referred to prior surveys used by Cummings et al. (2004) and Etter and Perneger (2001) to guide the selection of attitudes to be adapted for the brief phone survey. Nine attitudes towards pharmacotherapy (as a group, not per individual product) were assessed and are listed below. Each were asked using a common response (Likert) format (1 = *not at all*, 2 = *a little*, 3 = *don't know*, 4 = *somewhat*, 5 = *a lot*). Remainder items (perceived harm from smoking/medications) were asked via 0–10 Visual Analog Scales.

## Data Analyses

Data were explored and described using summary statistics and graphical displays. Associations between race and attitudes toward pharmacotherapy were evaluated using chi-square tests. Logistic regression analyses with self-reported pharmacotherapy use as the outcome were used to examine the associations with race and with attitudes toward pharmacotherapy use. For these analyses, only those attitudinal variables that differed significantly ( $\alpha = .05$ ) by race were included in the multiple regression model. Age, gender, education, race, cigarettes per day, and attitudes toward pharmacotherapy were all included as covariates. Interactions between race and attitudes were also included in multiple regression models. However, these regression models examined interaction terms separately (to avoid multicollinearity) but with adjustment for all other predictors. More specifically, for each covariate, a model was fit including the interaction between race and a covariate with all the other main effects but no other interactions. The *p* value for the significance of the interaction was used to determine if the interaction was significant, adjusted for the other covariates. For all analyses, alpha was set at .05.

## Results

### Demographics and Pharmacotherapy Usage

Sample demographics are presented in Table 1. There were no significant differences between the Black smokers and non-Hispanic White smokers on gender or lifetime quit attempts. Black smokers were slightly but significantly younger and had significantly lower rates of high school and college completion than non-Hispanic White smokers. They also smoked with significantly less frequency and lower quantity.

Ever usage of pharmacotherapy among non-Hispanic Whites was as follows per product: 23.5% patch, 11.0% gum,

**Table 1. Selected Demographic Characteristics, Smoking History, and Pharmacotherapy Use by Race, Among Current Smokers, South Carolina, 2008**

	Black ( <i>n</i> = 271)	Caucasian Americans ( <i>n</i> = 426)	<i>p</i> value
Age	48.4 (13.1)	50.9 (14.1)	<.05
Gender (% male/female)	38/62	32/68	.09
Education <sup>a</sup> (%)			
Completed high school	81	85	<.001
Completed some college or tech school	40	53	
No. of days smoked past thirty days			
<i>M</i> ( <i>SD</i> )	25.13 (8.5)	27.3 (6.7)	<.001
Median	30	30	
No. of cigarettes per day past thirty days			
<i>M</i> ( <i>SD</i> )	10.6 (7.4)	16.02 (10.1)	<.001
Median	10	15	
Lifetime quit attempts			
<i>M</i> ( <i>SD</i> )	7.5 (15.1)	9.4 (19.5)	.20
Median	3	3	
Ever use of pharmacotherapy (%)	23	39	<.001

*Note.* <sup>a</sup>Presented as nonmutually exclusive categories.

2.1% lozenge, 0.9% nasal spray, 1.6% inhaler, 12.4% bupropion, and 7.7% varenicline. Parallel rates for Blacks were 14.0% patch, 7.4% gum, 1.1% lozenge, 0.7% nasal spray, 0.4% inhaler, 5.5% bupropion, and 2.2% varenicline. Because usage rates were low overall, and because our intent was not a product-by-product comparison, we collapsed these into one variable: ever usage of any pharmacotherapy, an approach consistent with prior reports (Shiffman, Brockwell, et al., 2008). As hypothesized, significantly fewer Blacks (23%) reported ever use of pharmacotherapy than non-Hispanic Whites (39% odds ratio [*OR*] = 0.46; 95% *CI*: 0.33–0.66).

### Racial Comparisons of Attitudes

Table 2 demonstrates that there were no significant differences between Blacks and non-Hispanic Whites with respect to (a) safety concerns, (b) cost concerns, (c) likelihood to use a free sample of pharmacotherapy, (d) perceived necessity of cessation medication to quit, or (e) perceived harmfulness of smoking. Blacks were significantly less likely to believe that NRT is efficacious (*OR* = 0.26; 95% *CI*: 0.19–0.36) and to endorse a need for cessation treatment in general (*OR* = 0.66; 95% *CI*: 0.48–0.90). Black smokers were more likely to endorse concerns about addictive potential (*OR* = 1.47; 95% *CI*: 1.04–2.07), which was consistent with their elevated impression of general harm.

### Regression Analysis of Pharmacotherapy Usage

Even after adjusting for age, gender, education, smoking behaviors, and attitudes (Table 3), Blacks remained significantly less likely than non-Hispanic Whites to use pharmacotherapy (*OR* = 0.55, *p* = .003). Usage was further associated with addiction concerns (*OR* = 0.80, *p* < .01) and perceived necessity of treatment to quit

**Table 2. Attitudes Toward Smoking Cessation Pharmacotherapy by Race, South Carolina, 2008**

	Black (n = 271)	Caucasian American (n = 426)	p value
How well do medications work <sup>a</sup>	41.7	50.0	.032
How concerned are you about the safety of these medications <sup>a</sup>	51.3	46.0	.174
How concerned are you that these medications are addictive <sup>a</sup>	29.9	22.6	.030
How concerned are you about the cost of these medications <sup>a</sup>	55.4	60.1	.216
How likely would you be to use a free sample of these medications if provided by your healthcare provider <sup>a</sup>	67.5	66.2	.716
How much treatment of any kind do you need to quit? <sup>a</sup>	49.8	60.1	.008
How much medication do you need to quit? <sup>a</sup>	43.9	50.9	.070
How harmful are smoking cessation medications? <sup>b</sup>	4.75 (2.9)	4.12 (2.8)	.004
How harmful is cigarette smoking? <sup>b</sup>	9.28 (1.7)	9.18 (1.9)	.521

Note. <sup>a</sup>Percent endorsing “somewhat” or “a lot.”  
<sup>b</sup>M (SD) on 0–10 scale where 0 = *not at all* and 10 = *very much*.

smoking ( $OR = 1.52, p < .001$ ). There were trends for both perceived efficacy ( $OR = 1.12, p = .08$ ) and educational status ( $OR = 1.16, p = .08$ ). There were no significant associations detected with age, gender, cigarettes per day, or perceived harm of cessation medications. Multiple logistic regression models within each racial group were examined to further understand the predictors of pharmacotherapy usage by race (Table 3). For

Blacks, usage was associated with perceived necessity of treatment to quit smoking ( $OR = 1.49, p < .001$ ). There were no other significant associations. For non-Hispanic Whites, usage was associated with gender (female is referent:  $OR = 1.8, p < .05$ ), addiction concerns ( $OR = .73, p < .001$ ), and perceived necessity of treatment to quit smoking ( $OR = 1.58, p < .001$ ). There was a trend for age ( $OR = 1.16, p = .06$ ). There were no significant associations detected with educational status, cigarettes per day, perceived efficacy, or perceived harm of cessation medications. In the overall model, interactions (Race × Each Predictor Variable) were examined to test the hypothesis that the relationship between the predictor variables and usage was moderated by race. There was a nonsignificant but divergent trend for gender ( $OR = .48, p = .07$ ) such that, among Blacks, men were less likely to use pharmacotherapy, while among Caucasians, usage was greater among men. All other interactions were not significant.

### Discussion

The purpose of the current study was to examine whether attitudes toward pharmacotherapy were attributed to differing rates of self-reported pharmacotherapy usage among Black and Caucasian American smokers living in South Carolina. We believe this is among the first studies to examine attitudinal barriers to using pharmacotherapy within a large population-based sample. The study design, a population-based survey of South Carolina current smokers, oversampled for Blacks, builds upon previous research and supports external validity. Our results confirm racial differences in usage of pharmacotherapy, attitudes toward pharmacotherapy, as well as the link between attitudes and usage.

Across studies of smoking cessation pharmacotherapy, measurement of past pharmacotherapy use is variable, with some studies examining usage during the most recent quit

**Table 3. Multiple Regression Model of Predictors of Smoking Cessation Pharmacotherapy Use, South Carolina 2008**

	Pharmacotherapy use: ever vs. never						
	Total (n = 697)		Blacks (n = 271)		Caucasian Americans (n = 426)		Interaction <sup>a</sup> p value
	OR	95% CI	OR	95% CI	OR	95% CI	
Race (referent: Caucasian American)	0.55	0.37–0.81	–	–	–	–	–
Age (by 10-year blocks)	1.11	0.98–1.26	1.01	0.79–1.28	1.16	0.99–1.34	.42
Gender (referent: female)	1.35	0.93–1.97	0.83	0.43–1.64	1.80	1.11–2.9	.07
Education (ordinal)	1.16	0.98–1.37	1.11	0.80–1.53	1.17	0.96–1.43	.71
Cigarettes per day (by 5 cigarettes/day blocks)	1.06	0.94–1.2	1.04	0.81–1.34	1.08	0.94–1.24	.60
How well do medications work	1.12	0.99–1.3	1.10	0.87–1.4	1.13	0.96–1.3	.97
How concerned are you that these medications are addictive	0.80	0.69–0.90	0.88	0.71–1.08	0.73	0.62–0.87	.16
How much treatment of any kind do you need to quit?	1.52	1.35–1.71	1.49	1.2–1.84	1.58	1.35–1.84	.89
How harmful are smoking cessation medications?	1.03	0.97–1.1	1.03	0.92–1.16	1.02	0.94–1.11	.59

Note. OR = odds ratio.

<sup>a</sup>The interaction between race and each of the remaining eight predictors was assessed in the overall model. To avoid collinearity, eight separate models were run, one for each interaction, but each adjusting for all other predictors.

attempt, usage during the past year, or ever usage. Our study measured ever usage estimated at 23% among Blacks and 39% among non-Hispanic Whites. These rates appear lower compared with other recent reports, which found usage rates among adult smokers (across racial groups) who made a quit attempt in the past year to be 22% (Cokkinides et al., 2005), 32% (any pharmacologic or behavioral cessation aid; Stahre et al., 2010), and 32% (Shiffman, Brockwell, et al., 2008). The low usage rates found in our study likely reflect the unique population of smokers in South Carolina as well as the state tobacco control climate. South Carolina incurs a disproportionate burden of tobacco-related disease (Alberg et al., 2006) and historically has had weak tobacco control legislation. For example, in fiscal year 2009, South Carolina was ranked 51st in the nation on tobacco control spending, allocating \$0 and \$1 million of state and federal funds, respectively, or less than 2% of Centers for Disease Control recommendations (Campaign for Tobacco Free Kids, 2009).

Our findings demonstrate that Black smokers differ from non-Hispanic White smokers on several attitudes toward pharmacotherapy, including beliefs about its efficacy and addiction potential. They rate medications as being more harmful than do White smokers and generally discount the need for treatment to quit. This is consistent with the findings from a prior population-based study, which demonstrated greater concerns about the safety and efficacy of NRT among non-White smokers (Shiffman, Ferguson, et al., 2008), and consistent with the previous findings of qualitative studies, which have identified greater concerns about pharmacotherapy products among non-White smokers on themes of safety and addiction likelihood (Cummings et al., 2004; Fu et al., 2005, 2007; Yerger et al., 2008). The finding that Black smokers discount the need for cessation treatment of any kind suggests that they hold different views on nicotine dependence, including the value of comprehensive treatment for it. Thus, there seems to be an overall dismissal of any treatment need not just medication alone. This underscores a clear need for increased education on the challenges of quitting and the role of pharmacotherapy in that process. The need for heightened education is more apparent, given prior research that shows lower rates of health literacy among Blacks (Willey, Williams, & Boden-Albala, 2009) as well as the link between low health literacy and negative health outcomes (Williams, Davis, Parker, & Weiss, 2002). Importantly, there is support for the efficacy of educational efforts to improve health care literacy among Blacks (Mabiso, Williams, Todem, & Templin, 2010; Yang et al., 2010).

Contrary to our hypothesis, however, we did not find significant Race  $\times$  Attitude interactions as being predictive of pharmacotherapy use. That is, associations between use and attitudes were consistent across (not moderated by) racial group. This suggests that the attitudes that undermine pharmacotherapy usage are universal across race and possibly other demographics. Conversely, this may reflect limitations in power, incomplete assessment of attitudinal beliefs about pharmacotherapy, or both. Our data collection instrument was limited in its scope of pharmacotherapy attitudes. We conceptualized attitudinal barriers as consisting primarily of safety concerns and doubts of efficacy, an approach based on prior research (Cummings et al., 2004; Fu et al., 2005, 2007; Shiffman, Ferguson, et al., 2008; Yerger et al., 2008). Other more detailed attitudes certainly exist, such as the comparative harm of pharmacotherapy to smoking.

Nonetheless, the lack of significant Race  $\times$  Attitude interactions suggests that factors other than attitudes may undermine pharmacotherapy use among Blacks. Prior studies have documented a history of negative health care experiences among Black smokers (Browning, Ferketich, Salsberry, & Wewers, 2008; Chase, McMenamin, & Halpin, 2007; Franks, Fiscella, & Meldrum, 2005; Fu et al., 2007; Houston, Scarinci, Person, & Greene, 2005) and strong negative attitudes (i.e., mistrust) toward doctors (Fu et al., 2007). Perceptions of discrimination and inequity within the health care system are related to medical care delays and nonadherence (Casagrande, Gary, LaVeist, Gaskin, & Cooper, 2007). Also, a number of studies have shown that Blacks are routinely less likely to receive adequate quit advice from health care providers than Whites (Browning et al., 2008; Chase et al., 2007; Franks et al., 2005; Houston et al., 2005). Whether it is negative expectations about the health care system in general or an absence of clear cessation advice, it does appear that systemic influences have dissuaded Blacks from seeking treatment, following through with treatment recommendations or even believing treatment is necessary.

Another potential systems-level influence on misperceptions about pharmacotherapy relates to how it is regulated and marketed. Many products are often considered as “drugs,” labeled with implicit (and often explicit) suggestion that they are dangerous (Foulds, 2008). Black smokers have voiced strong concerns about foreign ingredients within products and the effects these unfamiliar ingredients might have on the body (Yerger et al., 2008). Lack of familiarization and trust in how products are developed and tested (Carpenter, Ford, Cartmell, & Alberg, in press) may account for this apprehension.

This study was subject to some limitations. The sampling for the survey consisted exclusively of landlines, which biases against inclusion of households that are wireless only. The role of socioeconomic status may be an important factor in pharmacotherapy use. While we did not collect this information directly, our reliance on educational status may be a proxy. As noted previously, the survey assessed a limited number of attitudes toward pharmacotherapy, leaving the possibility that we did not assess significant attitudes related to pharmacotherapy use. The survey only assessed a crude measure of pharmacotherapy usage (yes/no) and neither assessed duration or context of use. Our estimates were of ever usage, which allows for indirect comparisons with other studies that assess usage in past year or during the most recent quit attempt. Finally, the temporal relationship between attitude and usage is impossible to disentangle in a cross-sectional survey.

## Conclusions

Within this sample of current smokers in a southeastern state with weak tobacco control, overall ever usage of pharmacotherapy was 23% among Blacks and 39% among non-Hispanic Whites. Misconceptions about these products exist regardless of racial group, and both Black and non-Hispanic Whites are using pharmacotherapy at rates that fall well below best practice, given the support for their efficacy. The findings highlight a clear need to better educate individuals, particularly non-Whites, about the benefits and limited risks of pharmacological treatments to improve utilization and have an impact on smoking cessation.

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## Declaration of Interests

None declared.

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