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Racial and Ethnic Differences in Tobacco Information Seeking and Information Sources: Findings From the 2015 Health Information National Trends Survey

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Abstract

This article describes sources of health information, types of tobacco information sought, and trust in sources of tobacco information among U.S. racial/ethnic groups (Whites, Blacks, Hispanics, Asian and Pacific Islanders, and Other). Cross-sectional data (N = 3,788) from a nationally representative survey, HINTS-FDA 2015, were analyzed to examine unadjusted and adjusted associations between race/ethnicity and (a) first source of health information, (b) tobacco information seeking, and (c) trust in sources of tobacco information. Adjusted associations controlled for current tobacco product use and sociodemographic variables. Findings indicated that the Internet was the most common first source of health information while health care providers were the second most common source for all racial/ethnic groups. Tobacco-related health information seeking was more prevalent than other tobacco product information seeking. Unadjusted analyses indicated that a higher proportion of Whites sought other tobacco product information compared to Asians and Pacific Islanders. Trust was rated highest for doctors while trust for health organizations was rated second highest. Asians and Pacific Islanders had higher trust in the government compared to all other groups. Blacks had higher trust in religious organizations compared to all other groups besides Hispanics. Blacks had higher trust for tobacco companies compared to Whites and Other. Many of these differences were attenuated in adjusted analyses. This research has implications for tobacco control practice and policymaking by identifying potential dissemination strategies.

In the United States, rates of cigarette smoking among adults have declined dramatically in the past 50 years (U.S. Department of Health and Human Services, 2014; Ward, Clarke, Nugent, & Schiller, 2016), yet differences in tobacco use and smoking-related outcomes persist between racial/ethnic groups. Though research has shown similar (and sometimes lower) cigarette smoking prevalence among Blacks compared to Whites (Jamal et al., 2015; Singh et al., 2016; U.S. Department of Health and Human Services, 2014), Blacks experience higher rates of smoking-related disease and mortality (Haiman et al., 2006;

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Siegel, Miller, & Jemal, 2015; Singh, Williams, Siahpush, & Mulhollen, 2011) and lower quitting success compared to Whites (King, Polednak, Bendel, Vilsaint, & Nahata, 2004; Trinidad et al., 2015; U.S. Department of Health and Human Services, 2014). Across racial/ethnic groups, American Indians and Alaskan Natives consistently have the highest prevalence in overall tobacco use, while Asian Americans have the lowest prevalence (Hu et al., 2016; Lauterstein et al., 2014; Lee, Hebert, Nonnemaker, & Kim, 2014; U.S. Department of Health and Human Services, 2014). These racial/ethnic differences in tobacco use may be related to factors that contribute to tobacco communication inequalities. This research aims to capture some of these factors and its effort is guided broadly by McGuire's Communication-Persuasion Model (McGuire, 2001). According to this model, outcomes of communication are determined by factors that influence the construction and dissemination of communication messages. These "input" factors fall into a few general categories: source, message, channel, receiver, and destination. In this study, we focus on three types of factors that seem particularly relevant in the tobacco communication: different types of tobacco-related messages, transmission of tobacco information through different channels, and varying levels of source credibility (Davis, Gilpin, Loken, Viswanath, & Wakefield, 2008b; Viswanath, Ramanadhan, & Kontos, 2007).

Racial/Ethnic Differences in Exposure to Tobacco-Related Information

Historically, the tobacco industry targeted marketing and promotion toward specific cultural groups in the United States, including racial and ethnic minorities (Davis, Gilpin, Loken, Viswanath, & Wakefield, 2008a). This has been robustly demonstrated in research examining menthol cigarette marketing in Black communities (Anderson, 2011; Henriksen, Schleicher, Dauphinee, & Fortmann, 2012; Yerger, Przewoznik, & Malone, 2007) and with tobacco branding and promotional appeal for other sociocultural groups such as lesbian, gay, bisexual, and transgender (LGBT) communities (Anderson, 2011; Dilley, Spigner, Boysun, Dent, & Pizacani, 2008; Knight & Chapman, 2004; Muggli, Pollay, Lew, & Joseph, 2002; U.S. Department of Health and Human Services, 1998). Beyond tobacco marketing and promotions, not much is known about whether specific types of tobacco-related information are differentially disseminated to and received by racial/ethnic groups. It is uncertain whether some groups are exposed to more health information about tobacco products (e.g., harmful effects of tobacco use) or higher levels of other tobacco product information (e.g., information on where to purchase products). One online survey of U.S. adults found that non-White respondents were less likely to report exposure to e-cigarette information compared to non-Hispanic Whites (Emery, Vera, Huang, & Szczypka, 2014). However, e-cigarette information was broadly defined in the study and the study did not examine content-specific topics such as health information versus other product information. It is unknown whether there might have been racial/ethnic differences in exposure to content-specific tobacco information (e.g., health-related vs. other product-related).

Information Seeking Among Racial/Ethnic Groups

Understanding racial/ethnic differences in levels of health information seeking can help public health researchers strategize how to disseminate tobacco-related information among different racial/ethnic groups. However, research findings on racial/ethnic differences in

health information seeking have been inconsistent. While some research suggests disparities in information seeking among racial/ethnic minorities (e.g., Blacks and Hispanics are less likely to seek general health information compared to Whites (Nicholson, Grason, & Powe, 2003; Rooks, Wiltshire, Elder, BeLue, & Gary, 2012), other research suggests higher levels of information seeking among racial/ethnic minorities (e.g., Hispanic and African Americans are more likely to engage in cancer information seeking compared to Whites) (Kelly et al., 2010). One recent study also found that Blacks had significantly more receptive attitudes toward cancer information seeking than Whites, though such attitudes did not translate into higher levels of actual information seeking (Hovick, Liang, & Kahlor, 2014). Because past research on racial/ethnic differences in health information seeking is sparse and inconsistent, the current study attempts to address this research gap.

Racial/Ethnic Differences in Reliance and Trust for Specific Information Channels

Understanding where people first look for information about health issues is useful in determining appropriate channels to communicate health information to specific populations. This is especially important to study now as information seeking has expanded to other modes of communication such as the Internet and social media (Pew Research Center, 2013). Public health and health communication research have demonstrated that racial/ethnic-specific factors can influence the effectiveness of communications that seek to improve health behaviors (Davis et al., 2008b, 2007). Evidence suggests that different racial/ethnic groups may prefer different information channels. For example, Blacks, Hispanics, and Asians may prefer informal interpersonal channels, community centers, and faith-based organizations for health information (Cheong, 2007; Lee, 2010; Matthews, Sellergren, Manfredi, & Williams, 2002; Nguyen & Belgrave, 2012), while Whites may be more willing to seek health information from the Internet (Brodie et al., 2000; Ybarra & Suman, 2006).

Trust in sources of health information is an important dimension of source credibility (McGuire, 2001) and may help to explain preferences in information channels (Hovland & Weiss, 1951; Pornpitakpan, 2004). Previous research using data from the Health Information National Trends Survey (HINTS) found differences in levels of trust in the source of information and information channel across racial/ethnic groups. One study using 2007 HINTS data found that Hispanics had significantly lower levels of trust in health care providers and that Blacks had higher levels of trust in religious organizations and leaders compared to Whites (Richardson, Allen, Xiao, & Vallone, 2012). Another study using 2007 HINTS data found that Blacks, Asians, and Hispanics were more trusting of radio and television and that Blacks trusted charities and government organizations more than Whites (Oh et al., 2010). Within the realm of tobacco control, research suggests that source credibility can enhance message credibility and increase the message's impact on tobacco attitudes and behaviors (Schmidt, Ranney, Pepper, & Goldstein, 2016). However, not much is known about racial/ethnic differences in trust for specific tobacco information channels or about the types of tobacco information sources that different racial/ethnic groups consult. Evidence in these areas may help explain the relationship between tobacco information seeking and tobacco-related outcomes across racial/ethnic groups.

Study Aims

The aims of the paper are to describe, among multiple racial/ ethnic groups: (1) sources of health information, (2) the types of tobacco information sought, and (3) trust in sources of tobacco information. Because communication inequalities found among racial/ethnic groups may covary with other demographic and sociocultural factors (Smedley, Stith, & Nelson, 2003; Davis et al., 2008b), we present findings from both unadjusted models and models adjusted for tobacco use status and sociodemographic characteristics.

Methods

Sample and Design

The Health Information National Trends Survey (HINTS) is a nationally representative mail survey administered to civilian non-institutionalized adults aged 18 and older conducted by the National Cancer Institute (NCI) since 2003. In 2015, a partnership with the Food and Drug Administration (FDA) led to a special round of data collection that combined traditional HINTS topics with additional modules, including tobacco-relevant items. This special round will be referred to as HINTS-FDA 2015 hereinafter. HINTS-FDA 2015 data were collected between May and September 2015 (N = 3,788). A two-stage sampling design was employed: households were selected using a random sample of U. S. addresses, and within each household, one adult was selected based on proximity of birth date to survey date. The overall weighted response rate for HINTS-FDA 2015 was 33%. Additional details on data collection can be found at hints.cancer. gov and elsewhere (Blake et al., 2016; Westat, 2015).

Measures

Source of Health Information—To assess source of health information, the following item was used, “The most recent time you looked for information about health or medical topics, where did you go first?” Respondents selected one answer from a list of information sources that we grouped into five categories following a similar strategy by Rutten and colleagues (Rutten, Squiers, & Hesse, 2006). The five categories are (a) the Internet; (b) written materials (books, brochures, pamphlets, magazines, newspapers); (c) health care providers or practitioners (doctor or health care provider; complementary, alternative, or unconventional practitioners); (d) interpersonal sources (family; friend/co-worker); and (e) community/non-profit sources (telephone information number; library; public health organization).

Tobacco Information Seeking—Among those who responded that they had ever looked for information about health or medical topics from any source, respondents selected the types of tobacco product information that they had ever searched for from a list. Multiple selections were allowed. This list included information about: (a) health effects, (b) products that claim to reduce exposure to certain chemicals or present less risk of disease, (c) quitting help/information, (d) list of chemicals in tobacco products, (e) cost/coupons, (f) instructions/ tutorials, (g) where to purchase products, and (h) information about new kinds of tobacco products. We combined all selections into two categories due to small cell sizes. To assess

the types of tobacco information respondents searched for, we created a dichotomous variable for *tobacco health information seeking* based on whether respondents selected any item from a-d (yes/no), and another dichotomous variable for *other tobacco product information seeking* based on whether responded selected any item from e–h (yes/no).

Trust in Sources of Tobacco Health Information—To assess trust in sources of tobacco health information, respondents were asked "In general, how much would you trust information about the health effects of using tobacco from each of the following?" (a) health care providers, (b) interpersonal sources, (c) government health agencies, (d) health organizations or groups, (e) religious organizations and leaders, and (f) tobacco companies. Response options were 1 = *not at all*, 2 = *a little*, 3 = *some*, and 4 = *a lot*.

Demographic Variables—Demographic variables include age (recoded into four levels: 18–24; 25–44; 45–64; 65+ years), sex (male; female), health insurance status (insured; uninsured), geographic region (urban; rural), marital status (single; married/living with a partner; widowed, separated, divorced), and educational attainment (<high school diploma/ high school graduate/GED; some college/vocational or technical training; college graduate; postgraduate). Racial/ethnic identity included one Hispanic category and four non-Hispanic categories: White, Black, Asian and Pacific Islander (API), and Other (including American Indian, Alaska Native, and multiple races, which were combined due to small samples).

Current Tobacco Use—Respondents were classified as current tobacco users if they were current cigarette smokers (i.e., have smoked at least 100 cigarettes and now smoke every day or some days), and/or current cigar smokers (i.e., have smoked at least 50 cigars and now smoke every day or some days), and/or current smokeless tobacco (SLT) users (i.e., have used SLT at least 20 times and now use every day or some days). Respondents were classified as non-users if they did not currently use any of the three aforementioned products.

Analysis—All analyses were conducted in 2016 using SAS 9.3 and SAS-callable SUDAAN 11.0. To account for the complex sampling design, jackknife replicate weights were used in all analyses (Westat, 2015). Associations were assessed between race/ethnicity and (a) first source of health information; (b) tobacco information seeking, and (c) trust in sources of tobacco information. We report both unadjusted associations and adjusted associations that control for current tobacco product use and sociodemographic variables (age, sex, educational attainment, health insurance status, marital status, and urban/rural residence). Adjusted means and percentages were obtained where needed. Missing data were handled by listwise deletion. In the reported findings, counts are unweighted while proportions are weighted.

Results

Sample Characteristics

Of the sample, 3046 (78%) indicated that they had ever looked for information about health or medical topics from any source. Of those who indicated that they had ever looked, 1692 (53%) were female, 2832 (93%) had health insurance, and 2977 (98%) lived in an urban

region. With regard to age, 75 (8%) were 18–24 years, 664 (38%) were 25–44 years, 1233 (36%) were 45–64 years, and 993 (18%) were 65+ years old. With regard to marital status, 437 (24%) were single or never married, 1800 (60%) were married or living with a partner, and 809 (15%) were divorced, widowed, or separated. With regard to educational attainment, 621 (26%) had less than a high school diploma or were high school graduates or GED equivalent, 953 (34%) had some college or vocational training, 799 (22%) were college graduates, and 627 (18%) were post graduates. With regard to race/ethnicity, 2359 (68%) were White, 212 (12%) were Black, 171 (13%) were Hispanic, 102 (5%) were API, and 122 (2%) were Other.

First Source of Health Information by Race/Ethnicity

Unadjusted and adjusted proportions of respondents who first sought specific health information through each source are reported in Table 1. In addition, we examined 95% confidence intervals of these proportions to see whether, *within* each racial/ ethnic group, some sources of health information were more common than others. We found that the Internet was the most utilized first source of health information for all racial/ethnic groups (unadjusted range: 63.92% (Black) to 80.86% (API); adjusted range: 64.11% (Black) to 77.98% (Other)). Health care providers were the second most utilized source for Whites (unadjusted 14.14%; adjusted 13.19%). While health care providers were also the second most utilized source for Blacks, API, and “Other” in unadjusted and adjusted analyses, these proportions were not significantly different from all other sources.

Unadjusted and adjusted chi-square analyses were conducted to test the associations *between* race/ethnicity and whether the respondent first sought health information from a specific source (e.g., did the respondent seek health information from the Internet first? (yes/ no); see Table 1). Unadjusted analyses revealed that a lower proportion of Other sought information from interpersonal sources compared to Whites, Blacks, and Hispanics. Due to cases where some expected cell values were less than 5, unweighted Fisher’s exact tests were conducted, and findings were similar. In adjusted analyses, Other had a lower proportion compared to Whites only. There were no other significant associations among the unadjusted or adjusted analyses.

Tobacco Information Seeking by Race/Ethnicity

Overall, the proportions for seeking tobacco-related health information were greater than proportions for seeking other tobacco product information across all racial/ethnic groups (Table 2). Unadjusted and adjusted analyses did not find a significant association between tobacco health information seeking and race/ethnicity. However, the unadjusted analysis indicated a significant association between other tobacco product information seeking and race/ethnicity. A higher proportion of Whites sought other tobacco product information compared to APIs. However, these differences were not significant in the adjusted analysis.

Trust in Source of Tobacco-Related Information and Race/Ethnicity

In the overall sample, trust in doctors (M = 3.58, SE = 0.02) and trust in health organizations (M = 3.14, SE = 0.03) were rated with the highest mean scores while trust in tobacco companies (M = 1.52, SE = 0.03) and trust in religious organizations (M = 1.97, SE = 0.03)

were rated with the lowest mean scores. Trust in the government (M = 3.06, SE = 0.03) and trust in family and friends (M = 2.55, SE = 0.03) fell in the middle.

Trust in various sources of tobacco health information by racial/ethnic group is displayed in Table 3. There was no significant association between race/ethnicity and trust in health care providers, trust in interpersonal sources, or trust in health organizations in either the unadjusted or adjusted analyses. Trust in the government, trust in religious organizations, and trust in tobacco companies were significantly associated with race/ethnicity in unadjusted analyses. API had significantly higher mean levels of trust in the government compared to all other groups. Blacks had higher mean levels of trust in religious organizations compared to all other groups besides Hispanics, and that Blacks had higher mean levels of trust for tobacco companies compared to Whites and Other. These racial/ethnic differences were fully attenuated in the adjusted analyses with one exception: Blacks displayed higher adjusted mean levels of trust in religious organizations compared to all other groups; however, Blacks' mean trust scores were still below the midpoint of the scale (<2.00).

Discussion

The present study describes the sources of health information first consulted, the types of tobacco-specific information sought, and trust in sources of tobacco health-related information among racial/ethnic groups. Overall, our findings indicate that the Internet was the most utilized source of health information across all racial/ethnic groups, confirming a trend observed by Hesse and colleagues (2005) more than a decade ago. These findings support the existing literature which suggests that the digital divide among racial/ethnic groups continues to close (Chou, Hunt, Beckjord, Moser, & Hesse, 2009). Other sociodemographic factors such as age, income, and education may be more important correlates of Internet utilization (Hesse et al., 2005; Koch-Weser, Bradshaw, Gualtieri, & Gallagher, 2010; Richardson et al., 2012).

In addition, our findings indicated that among Whites, health care providers were the second most common source of health information and this proportion significantly differed from other sources within this group. While a high proportion of respondents from other racial/ethnic groups reported seeking health information from health care providers, there were no within-group differences in the proportion of utilization of health care providers, written materials, and interpersonal sources among Blacks, Hispanics, APIs, and "Others". Lack of access to care may pose as a barrier for some racial/ethnic groups and may explain lower levels of health information seeking from health professionals (Hargraves & Hadley, 2003; Siddiqi, Zuberi, & Nguyen, 2009). Among some racial/ethnic groups, familial and social networks may be preferred sources of health information over traditional health care provider channels (Cheong, 2007; Lee, 2010; Matthews et al., 2002; Nguyen & Belgrave, 2012). Cultural barriers such as language barriers, social stigma surrounding diagnosis of disease, or perceived taboos for topics considered too personal to discuss may lead some members to solicit information from sources that are considered to be less threatening (Chin, Neilands, Weiss, & Mantell, 2008; Lichtenstein, 2003). However, it should be noted that a lower proportion of Other sought information from interpersonal sources compared to

Whites, Blacks, and Hispanics. This is potentially due to social isolation and may suggest that these individuals do not have accessible interpersonal resources for health. Our findings suggest the importance of exploring alternative information outlets when disseminating health information.

The HINTS-FDA 2015 data showed a consistent pattern of greater information seeking about tobacco-related health information than other tobacco product information across all racial/ ethnic groups. However, while tobacco health information seeking did not differ significantly between racial/ethnic groups, other tobacco product information seeking did show variation in the unadjusted bivariate analysis. Compared to APIs, a significantly higher proportion of Whites ever sought other tobacco product information on topics such as cost or coupons, instructions or tutorials, where to purchase products, and information about new kinds of tobacco products. In addition, the "Other" racial/ethnic group (comprised of Native American, Alaskan Native, and mixed respondents) displayed a higher proportion of those who ever sought other tobacco product information, although they did not differ from APIs. These findings are unsurprising as Whites, Native Americans, and Alaskan Natives show higher prevalence in tobacco use while Asian Americans consistently demonstrate the lowest prevalence in tobacco use across racial/ethnic groups (Hu et al., 2016; Lauterstein et al., 2014; Lee et al., 2014; U.S. Department of Health and Human Services, 2014).

In general, health care providers and health organizations were endorsed as the most trusted sources of information on the health effects of tobacco products across racial and ethnic groups. In addition, tobacco companies and religious organizations were endorsed the least as trusted sources of information on the health effects of tobacco products. This suggests substantial advantage in using health care providers and health organizations as a source and channel for tobacco-related health information.

The study's findings also indicate different racial/ethnic patterns in trust for various tobacco information sources. While Black's average scores for trust in religious organizations were near the midpoint of the scale, indicating only moderate levels of trust, our unadjusted and adjusted findings showed that Blacks had higher levels of trust in religious organizations compared to Whites, Asians and Pacific Islanders, and Others. Previous research shows that faith-based organizations and institutions may serve as credible sources of health information and resources for Blacks (Bryant, Moore, Willis, & Hadden, 2015; Sattin et al., 2016; Tanner et al., 2016; Tettey, Duran, Andersen, & Boutin-Foster, 2016). Our findings add to the literature by showing that compared to other racial/ethnic groups, Black respondents display higher levels of trust in religious organizations in specifically providing *tobacco* health information. This has implications for how public health and health communication professionals seek to disseminate targeted health information.

Our study's findings indicate that APIs had higher levels of trust in the government in providing tobacco health information compared to other racial/ethnic groups. Findings from other studies indicate that depending on the government or agency source, message credibility can either be enhanced or eroded (Bansal-Travers, Hammond, Smith, & Cummings, 2011; Guttman & Peleg, 2003; Wogalter, Kalsher, & Rashid, 1999). Collectively, this suggests that efforts should focus on fostering trust and enhancing

credibility of government sources among groups with historically low levels of government trust.

Though overall mean scores for trust in tobacco companies for tobacco health information was low across all racial/ethnic groups, our study's findings indicated that Blacks had relatively higher levels of trust in tobacco companies compared to Whites and Others. Tobacco marketing has historically targeted specific demographic and cultural groups by tailoring products, imagery, and themes to enhance product appeal (Brown-Johnson, England, Glantz, & Ling, 2014; Cantrell et al., 2013; Laws, Whitman, Bowser, & Krech, 2002). This has been demonstrated with targeted tobacco advertising and promotion, specifically for menthol products, for Blacks (Anderson, 2011; Henriksen et al., 2012; Yerger et al., 2007). As a result, Black population may be more inclined to receive tobacco health messages from tobacco companies compared to other racial/ethnic groups. However, our study findings were attenuated in the adjusted analyses, suggesting that sociodemographic factors may be also driving these associations.

The study's limitations include the use of cross-sectional data, which prevents us from drawing causal conclusions. In addition, the study's measures may have suffered from limitations. First, sources of information may be influenced by factors such as convenience and accessibility. Because HINTS-FDA 2015 did not measure preferred or primary sources of health information, we may have failed to detect racial/ethnic differences in preferences for specific information channels. Also, due to small cell sizes due to stratification by race/ethnicity, our measures of health communication were broad such that there was limited specificity in tobacco-seeking behavior (e.g., tobacco health information seeking was not broken down into further components: health effects seeking, modified risk exposure seeking, quitting information seeking). In addition, our study did not capture granularity within broad racial/ethnic groups that can be further examined with measures of acculturation, immigrant status, and language use. For example, even within racial-ethnic categories, intra-group differences may impact health communication outcomes. One study showed that higher English language proficiency among Hispanic populations is associated with higher trust in health information sources and also higher reported use of these communication channels compared to Hispanics who had lower English proficiency (Clayman, Manganello, Viswanath, Hesse, & Arora, 2010). Another study by Zhao (2010) showed that compared to U.S.-born respondents, foreign-born respondents were less likely to engage in health information seeking and were less likely to be trusting of health information sources. However, due to very small samples, analyses assessing English proficiency or immigrant status were not feasible. In addition, while we control for current tobacco use, this measure is limited to current cigarette, cigar, and SLT product use as HINTS-FDA 2015 does not measure current use for other products (e.g., ENDS or hookah). Last, small cell sizes may have underpowered some of analyses. Future waves of HINTS-FDA could be pooled in order to over-come these analytic limitations and to assess differences by smoking status.

This research has implications for tobacco control practice. Understanding the characteristics of information seeking in different consumer groups may help health communication practitioners to identify effective information dissemination strategies.

Further, these findings can inform tobacco prevention and regulatory bodies. For example, the findings of this analysis provide insight on which sources and channels might be effective in reaching each racial/ethnic group with tobacco related educational efforts. With the Internet as the most reported first source of information across racial/ethnic groups, health communication professionals should continue to develop reliable online information that is easy to locate, salient, and accessible on various devices. It is important for public health and regulatory officials to understand that the Internet is an important source of both health information and product promotion. With this in mind, tobacco control professionals could monitor online tobacco marketing strategies that target youth and other vulnerable populations, and develop innovative and effective ways of communicating prevention messages that reach target populations. One example is the FDA's "This Free Life" public education campaign, in which tobacco use prevention messaging is designed to reach the LGBT community. "This Free Life" has a national presence online through social media and the FDA's campaign website (thisfreelife.betobaccofree.hhs.gov/) and relies on paid advertising efforts focusing on existing LGBT media in target markets. Last, the present study findings indicate that health care providers continue to be a sought and trusted source of tobacco specific health information across racial/ethnic groups. As such, health care providers should engage as both a proactive source of information in health campaigns (e.g., the person initiating discussion and delivering the message) and a reactive information channel (e.g., the person attending to patients' health questions).

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Table 1.

First source of health information among those who have ever looked for health information from any source by race/ethnicity

	Unadjusted analyses						Adjusted analyses[1]					
	White *n* = 2847	Black *n* = 273	Hispanic *n* = 241	Asian & Pacific Islander *n* = 133	Other *n* = 148		White *n* = 2847	Black *n* = 273	Hispanic *n* = 241	Asian & Pacific Islander *n* = 133	Other *n* = 148	
First source of health information	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**χ^2**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**Wald *F***
Internet	74.95 (72.35–77.38)	63.92 (52.44–74.00)	70.51 (59.29–79.70)	80.86 (68.77–89.02)	78.74 (65.61–87.80)	1.89 $p = .13$	77.53 (75.07–79.82)	64.11 (50.89–75.48)	67.91 (55.00–78.56)	73.73 (62.16–82.74)	77.98 (64.45–87.37)	1.95 $p = .12$
Written materials	6.93 (5.55–8.62)	9.20 (4.74–17.11)	11.55 (5.68–22.04)	5.43 (2.25–12.51)	4.58 (2.01–10.10)	0.83 $p = .51$	5.56 (4.39–7.04)	9.78 (3.70–23.43)	10.57 (3.85–25.84)	7.34 (2.79–17.96)	5.64 (2.11–14.21)	0.72 $p = .58$
Health care provider	14.14 (12.34–16.14)	21.36 (13.13–32.81)	11.38 (5.88–20.87)	12.22 (6.11–22.96)	16.20 (8.71–28.12)	1.00 $p = .42$	13.19 (11.36–15.25)	22.28 (13.63–34.24)	15.36 (7.66–28.42)	15.60 (8.03–28.13)	16.01 (7.99–29.52)	1.11 $p = .36$
Interpersonal source	2.55 (1.18–3.56)	3.42 (1.45–7.82)	4.90 (1.64–13.73)	1.17 (0.14–8.90)	0.02 (0.01–.16)	**6.27 * $p < .001$ ****	6.49 (5.40–7.77)	6.71 (4.18–10.62)	8.07 (3.84–16.15)	5.73 (4.57–7.16)	4.09 (3.30–5.06)	**44.18 * $p < .001$**
Community/Non-Profit	1.44 (0.68–3.02)	2.10 (0.74–5.84)	1.66 (0.57–4.74)	0.32 (0.03–2.89)	0.46 (0.10–2.11)	1.76 $p = .15$	1.42 (0.80–2.49)	1.34 (0.34–5.12)	2.73 (0.76–9.34)	0.92 (0.29–2.89)	0.35 (0.03–4.70)	0.85 $p = .50$

All proportions are weighted. Bolded values are significant at $p \leq .05$.

[1] Values reflect adjusted parameters (predicted marginals and 95% CIs) adjusting for age, sex, educational attainment, marital status, health insurance, urban/rural, and current tobacco use

[*] Due to instances where relative standard error (RSE) > 0.30, interpret with caution.

[**] Due to cases where some expected cell values < 5, unweighted Fisher's exact tests were conducted and findings were similar.

Table 2.

Types of tobacco-information seeking among those who have ever looked for health information from any source by race/ethnicity

	Unadjusted analyses						Adjusted analyses[1]					
	White *n* = 2847	Black *n* = 273	Hispanic *n* = 241	Asian & Pacific Islander *n* = 133	Other *n* = 148		White *n* = 2847	Black *n* = 273	Hispanic *n* = 241	Asian & Pacific Islander *n* = 133	Other *n* = 148	
Has Ever Sought…	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**χ^2**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**Wald *F***
Tobacco Health Info[3]	25.35 (22.22–28.74)	24.03 (17.00–32.80)	26.96 (18.63–37.30)	28.24 (15.12–46.35)	35.26 (24.23–48.12)	0.82 $p = .52$	25.04 (21.75–28.65)	23.53 (15.80–33.53)	30.14 (20.59–41.79)	31.37 (17.28–49.99)	32.38 (22.22–44.53)	0.94 $p = .45$
Other Tobacco Product Info[4]	13.77 (11.39–16.55)	7.95 (4.53–13.58)	9.35 (5.20–16.25)	4.09 (1.78–9.12)	13.86 (7.74–23.57)	**8.45 $p < .001$**	13.36 (11.08–16.01)	7.41 (4.42–12.15)	11.85 (6.75–19.98)	8.64 (3.77–18.58)	14.17 (6.84–27.05)	1.67 $p = .17$

All proportions are weighted. Bolded values are significant at $p \leq .05$.

[1]Values reflect adjusted parameters (predicted marginals and 95% CIs) adjusting for age, sex, educational attainment, marital status, health insurance, urban/rural, and current tobacco use.

Table 3.

Trust in sources of tobacco information among those who have ever looked for health information from any source by race/ethnicity

	Unadjusted Analyses						Adjusted Analyses[1]					
Trust in[2]	White *n* = 2847 M (SE)	Black *n* = 273 M (SE)	Hispanic *n* = 241 M (SE)	Asian & Pacific Islander *n* = 133 M (SE)	Other *n* = 148 M (SE)	*F*-test	White *n* = 2847 M (SE)	Black *n* = 273 M (SE)	Hispanic *n* = 241 M (SE)	Asian & Pacific Islander *n* = 133 M (SE)	Other *n* = 148 M (SE)	*F*-test
…Health care provider	3.61 (0.02)	3.55 (0.09)	3.54 (0.08)	3.62 (0.06)	3.46 (0.13)	0.66 *p* = .62	3.71 (0.02)	3.68 (0.06)	3.59 (0.08)	3.67 (0.07)	3.40 (0.15)	1.67 *p* = .17
…Interpersonal source	2.58 (0.03)	2.48 (0.11)	2.48 (0.10)	2.66 (0.12)	2.45 (0.12)	0.73 *p* = .57	2.61 (0.04)	2.45 (0.12)	2.36 (0.11)	2.87 (0.15)	2.52 (0.11)	2.21 *p* = .08
…Government	3.04 (0.03)	3.09 (0.13)	3.07 (0.10)	**3.38 (0.08)**[a, b, c, e]	3.04 (0.13)	**4.89 *p* = .002**	3.15 (0.04)	3.21 (0.13)	3.13 (0.14)	3.31 (0.09)	2.89 (0.14)	2.04, *p* = .10
…Health Org	3.12 (0.03)	3.20 (0.13)	3.17 (0.11)	3.33 (0.10)	3.16 (0.13)	1.35 *p* = .27	3.22 (0.04)	3.37 (0.10)	3.24 (0.14)	3.33 (0.09)	3.00 (0.16)	1.25 *p* = .30
…Religious Org	1.85 (0.03)	**2.39 (0.13)**[a, d, e]	2.08 (0.13)	1.95 (0.13)	1.99 (0.11)	**5.39 *p* = .001**	1.82 (0.04)	**2.38 (0.14)**[a, c, d, e]	1.83 (0.11)	1.97 (0.16)	1.99 (0.12)	**4.39 *p* = .004**
…Tobacco Company	1.44 (0.02)	**1.80 (0.12)**[a, e]	1.59 (0.08)	1.57 (0.12)	1.41 (0.09)	**2.78 *p* = .04**	1.42 (0.02)	1.74 (0.16)	1.40 (0.09)	1.56 (0.11)	1.46 (0.12)	1.42 *p* = .24

Bolded values are significant at $p \leq 0.05$.

[1] Adjusting for age, sex, educational attainment, marital status, health insurance, urban/rural, and current tobacco use.

[2] Measured by "In general, how much would you trust information about the health effects of using tobacco from each of the following?" Response options were 1 = *not at all*, 2 = *a little*, 3 = *some*, and 4 = *a lot*.

[a] Significantly different from White at $p < .05$.

[b] Significantly different from Black at $p < .05$.

[c] Significantly different from Hispanic at $p < .05$.

[d] Significantly different from Asian and Pacific Islander at $p < .05$.

[e] Significantly different from Other at $p < .05$.