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Awareness and Use of Tobacco Quitlines: Evidence from the Health Information National Trends Survey

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Abstract

Smoking quitlines, with their demonstrated efficacy and convenience, have become integral to tobacco control efforts in the United States. However, use of quitlines in smoking cessation remains low relative to their potential. To increase quitline use in the United States, a better understanding of current awareness of quitlines is needed. We analyzed data from the 2007 Health Information National Trends Survey ($n = 7,674$) to identify factors associated with awareness and use of quitlines. Data were weighted to provide representative estimates of the adult U.S. population. Of those surveyed, approximately 50% were aware of quitlines (65% of current smokers) and 3.5% had called a quitline (9% of current smokers). Current and former smokers were significantly more likely to be aware of quitlines than never smokers ($p < .01$). Age, ethnicity, and education were significantly related to quitline awareness. Looking for health information (OR = 1.40, CI = 1.14–1.73) and having more trust in the government as a source of health information (OR = 1.25, CI = 1.05–1.48) were associated with awareness. Current smoking status was strongly associated with quitline use (OR = 9.25, CI = 3.18–26.85). Respondents who looked for health or medical information from any source, had a personal or family history of cancer, and reported psychological distress were more likely to have called a quitline. While awareness of quitlines appears to be high, quitline utilization is low. Implications and future research directions are discussed.

Marked progress has been made in decreasing the overall prevalence of smoking within the United States. However, tobacco use remains the single most avoidable cause of disease, disability, and death in the U.S. with approximately 440,000 people dying annually from smoking-related illnesses and an additional 8.6 million people suffering from tobacco-related illness (Centers for Disease Control and Prevention, 2009). What's more, tobacco-related morbidity and mortality disproportionately affect socioeconomically disadvantaged

populations. Thus, identifying means to effectively reach and engage at-risk populations in tobacco cessation is a highly important public health objective.

A number of recommendations have been made regarding how to further progress toward reducing smoking prevalence and the subsequent health burden of tobacco (Fiore et al., 2004). Among these recommendations is the use of smoking cessation quitlines as an intervention that can provide both wide reach and impact. Indeed, smoking quitlines, with their demonstrated efficacy and convenience, have become integral to tobacco control efforts in the United States and a national access number (1-800-QUIT-NOW) has been implemented. A growing body of literature supports the use of quitlines as an effective cessation intervention (Stead, Perera, & Lancaster, 2006). The 2006 Cochrane Review found that those who use telephone counseling have an increased odds for long-term cessation compared with those with no counseling (Stead et al., 2006). Similarly, the 2008 Clinical Practice Guideline (Fiore et al. 2008) reports that quitlines significantly increase abstinence rates compared with minimal interventions or no counseling and recommends that practitioners and health systems utilize the national network, 1-800-QUIT-NOW, by referring patients directly or via fax. In addition, quitlines, in part due to reduced barriers to access and use, are four times as likely to be used by smokers compared with traditional face-to-face counseling (McAfee, Sofian, Wilson, & Hindmarsh, 1998). Despite great potential for population reach, quitlines are significantly underutilized: only 1%–2% of smokers in North America called a quitline over the course of a year (Ossip-Klein & McIntosh, 2003). However, it is important to note that there is heterogeneity between state utilization of quitlines. The North American Quitline Consortium shows that state utilization varies from .06% to 6% (Bailey, Personal communication based on data from the north American Quitline consortium annual survey, 2009). Additionally, there appears to be differences in utilization based on ethnicity and socioeconomic status (SES) such that minorities and low SES populations are either equally or over-represented. Studies have shown that certain ethnic groups, such as African Americans, may in aggregate be less aware of quitlines; however they are over-represented in quitline callers (Maher et al., 2007; Zhu, Anderson, Johnson, Tedeschi, & Roeseler, 2000). Research has also shown that uninsured and Medicaid callers are also more likely to use quitlines (El-Bastawissi et al., 2003).

Quitline call volume has been shown to be highly sensitive to promotion of the service, both in terms of increasing during times of active promotion and rapid falls in volume when promotion is discontinued (Hurd, Augustson, Backinger, Deaton, & Bright, 2007; Ossip-Klein et al., 1991). A variety of promotional activities are effective in increasing calls to the quitline including mass media campaigns, health care outreach, and viral marketing (McAfee, 2007). The inclusion of free or reduced cost of nicotine replacement therapy (NRT) appears to have an added value in increasing calls (Campbell, Lee, Haugland, Helgeson, & Harwell, 2008; Cummings et al., 2006). However, there are a number of challenges associated with efforts to increase call volume. The cost associated with promotions is typically high, rendering program maintenance cost prohibitive. Fluctuating call volume due to spikes during promotions and troughs in its absence are an added difficulty to effectively managing individual state quitline resources.

In an attempt to better understand factors that may contribute to the underutilization of quitlines, it is important to assess the scope of current efforts. However, there is a lack of national-level data regarding the current reach of quitlines. Although many, if not most, state quitlines track demographics and smoking behavior of users, basic information associated with quitline awareness and use at the national level remains unclear. The objective of the current study is to examine characteristics of individuals who are aware of quitlines and those who use quitlines using nationally representative data.

Methods

Data Collection

The current study utilized the Health Information National Trends Survey 2007 (HINTS 2007). The HINTS collects nationally representative data on the use of and experiences with cancer-related information in the U.S. adult population. The 2007 iteration applied a dual-frame sampling design and was conducted between January and April 2008. Half of the sample was acquired through a list-assisted Random Digit Dial (RDD) Computer Assisted Telephone Interview (CATI). Interviews were conducted in English or Spanish, depending on respondent preference. The RDD weighted final response rate was 24%, yielding a total of 4,092 interviews. Further details on the RDD design and study operations are published elsewhere (Cantor et al., 2009).

The second sampling frame was obtained through a comprehensive national listing of addresses available from the U.S. Postal Service (USPS). The administered mail survey included a stratified sample selected from a list of addresses that over-sampled for minorities. In the mail sample, all adults in the household at each sampled address were asked to complete a questionnaire. Thus, the mail sample was a stratified cluster sample, in which the household was the cluster. The response rate for the mail survey was 31%, resulting in 3,582 completed surveys. Further details on the mail survey design and operations are published elsewhere (Cantor et al., 2009). The total sample for the current study was 7,674 utilizing both the telephone and mail survey sampling frames.

Measures

Aware of Quitline—This item was assessed with the following, “There are a number of resources that people use to help them stop smoking. Before being contacted for this survey (and regardless of whether or not you smoke), had you ever heard of telephone quitlines such as a toll-free number to call for help in quitting smoking?” Response options were *yes* or *no*.

Called Quitline—Those who responded that they had heard of telephone quitlines were further asked, “Have you ever called a telephone quitline.” Response options were *yes* or *no*.

Aware of 1-800-Quit-Now—Participants were asked, “Before being contacted for this survey, had you ever heard of 1-800-Quit-Now?” Responses were coded as *yes* or *no*.

Sociodemographic Characteristics—Measures of gender, age, ethnicity, education, household income, and health care coverage were collected. The question assessing health care coverage asked participants, “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?” Response options were *yes* or *no*.

Smoking Status—Smoking status was defined as current smokers, former smokers, and never smokers. Current smokers were those who reported that they have smoked at least 100 cigarettes during their lifetime and also reported currently smoking every day or some days. Former smokers were those who reported that they have smoked at least 100 cigarettes in their lifetime and who also reported not currently smoking. Never smokers reported never having smoked 100 cigarettes in their lifetime. These smoking definitions have been used in prior analyses of HINTS data (Finney Rutten, Augustson, Moser, Beckjord, & Hesse, 2008; Finney Rutten, Wanke, & Augustson, 2005).

Health Information—Participants were asked, “Have you ever looked for information about health or medical topics from any source?” Response options were *yes* and *no*. If participants responded *yes*, they were asked, “The most recent time you looked for information about health or medical topics, where did you go first?” Responses were coded as *Internet*, *health care professional*, and *others*.

Trust in Sources of Health Information—Participants were asked, “In general, how much would you trust information about health or medical topics from each of the following: (e.g., your doctor, the Internet, and government agencies)?” Response were recoded as *a lot=some* and *a little=not at all*.

Regular or Usual Health Care Provider—In order to assess if participants see a health professional, participants were asked, “Not including psychiatrists and other mental health professionals, is there a particular doctor, nurse, or other health professional that you see most often?” Response options were *yes* and *no*.

Patient-Centered Communication—Participants’ were asked a series of questions about their communication during the past 12 months with doctors, nurses, or other health professionals. Specifically, they were asked to assess the extent to which their health care providers engaged in the following patient-centered communication approaches: “... give you the chance to ask all the health-related question you had”; “... give the attention you needed to your feelings and emotions”; “... involve you in decisions about your health care as much as you wanted”; “... make sure you understood the things you needed to do to take care of your health”; and “... help you deal with feelings of uncertainty about your health or health care.” Response options included *never*, *sometimes*, *usually*, *always*, with higher scores indicating greater perceived patient centered communication. A summed composite score was created from these five items ($\alpha = 0.89$).

Cancer History—Participants were asked, “Have you ever been diagnosed as having cancer?” and “Have any of your family members ever had cancer?” These items were recoded into one variable identifying cancer history as *personal* history, *family* history, or no history of cancer.

Psychological Distress—Psychological distress was assessed with the question, “How often did you feel each of the following during the past 30 days: “... so sad that nothing could cheer you up”; “... nervous”; “... restless or fidgety”; “... hopeless”; “... that everything was an effort”; and “... worthless.” Response options included *all of the time*, *most of the time*, *some of the time*, *a little of the time*, and *none of the time*. Higher scores indicated more psychological distress, and these items were summed to create a composite score ($\alpha = 0.87$). This variable was recoded as a dichotomous variable: *lower psychological distress* (0–12) or *greater psychological distress* (13–24).

Data Analysis

We used SUDAAN version 9.0.1 (RTI International, Research Triangle Park, North Carolina) to estimate standard errors of point estimates for the complex survey data. All data were weighted to provide representative estimates of the adult U.S. population. Chi-square analyses were utilized to examine the bivariate associations of numerous factors with quitline awareness and use. The logistic regression models were selected according to the forward selection procedure with $p < .05$ admission criteria for entry into the model.

Results

Table 1 summarizes the chi-square analyses examining the associations of the awareness and use of smoking quitlines with sociodemographic characteristics and other independent variables. The largest percentage of those aware of quitlines were aged 18–34 years old (35.9%). The largest percentage of those who reported ever calling a quitline were in the 50–64 age group (40.3%). Ethnicity and education were significantly associated with awareness of quitlines ($p < .05$), but they were not significantly associated with calling a quitline. White participants were more aware of quitlines than Blacks, Latinos, or other ethnicities. Those who had beyond a high school education were significantly more aware of quitlines than high school education participants or those with less than high school education. Conversely, household income was significantly associated with calling a quitline but not with awareness of quitlines. Respondents in the lowest income bracket (<\$20k/year) were the most likely to have called a quitline (35.6%). Health care coverage was not significantly related to quitline awareness or use.

Smoking status was significantly associated with both awareness of quitlines and having ever called a quitline. Results indicated that 64.8% of current smokers were aware of quitlines, whereas 48% of former smokers and 44.5% of never smokers were aware of quitlines. Nine percent of aware smokers, 2.8% of former smokers, and 0.9% of nonsmokers reported having called a quitline. Current cigarette smokers were about three times as likely to report ever calling a quitline than former smokers. A greater proportion of those aware of quitlines reported having looked for health or medical information from any source (73.8%) than those who had not looked for information (26.2%). A similar pattern emerged for those who reported having called a quitline. A greater proportion of those who were not aware of quitlines had more trust in government agencies (72.7%) than less trust (27.3%). Approximately 83% of those who had called a quitline versus only about 69% of those who had *not* called a quitline reported having a usual source of health care. Approximately 81% of individuals who had called a quitline reported a family history of cancer versus 66% of those who had *not* called a quitline. Of those aware of quitlines, 56.5% were aware of 1-800-Quit-Now.

Table 2 outlines the results for the logistic regression analyses where awareness of quitlines is the outcome of interest ($F(15) = 22.45$, $p < .0001$). Those in the youngest age group, 18–34 were more than twice as likely to be aware of quitlines as the oldest age group, 65 and older (OR = 2.10, CI = 1.65–2.66). Blacks were significantly less likely to be aware of quitlines than whites (OR = 0.59, CI = 0.42–0.83). Those who had less than a high school education were significantly more likely to be aware of quitlines than those with education beyond high school (OR = 1.35, CI = 1.02–1.79). Current (OR = 2.28, CI = 1.89–2.75) and former smokers (OR = 1.22, CI = 1.06–1.40) were significantly more likely to be aware of quitlines than never smokers. Looking for health information (OR = 1.40, CI = 1.14–1.73) and having more trust in government agencies (OR = 1.25, CI = 1.05–1.48) were associated with increased odds of quitline awareness. A personal or family history of cancer was not independently associated with quitline awareness in the multivariate analysis.

Table 3 outlines the results for the multivariate logistic regression analyses where having ever called a quitline is the outcome of interest ($F(7) = 68.31$, $p < .0001$). Current smoking status had the largest association with ever having called a quitline (OR = 9.25, CI = 3.18–26.28). Those who have looked for health or medical information from any source were significantly more likely to have ever called a quitline (OR = 3.86, CI = 1.65–9.04). The odds of having ever called a quitline more than doubled for those who had a family history of cancer (OR = 2.85, CI = 1.23–6.62). Those who reported more psychological distress were

about twice as likely to have called a quitline than those with less psychological distress (OR =0.42, CI =0.21–0.83).

Discussion

We examined factors associated with awareness and utilization of smoking quitlines in a national sample. While approximately half of the U.S. population is aware of quitlines, only 9% of those smokers who are aware report having ever called a quitline. Both being aware and having called a quitline was associated with smoking status, such that those who reported current or former smoking were more likely to be aware and to have called a quitline than those who had never smoked. Those who are aware of this service appear to be in groups less likely to make quit attempts, including those who are younger and have less education. This is consistent with previous research that has shown that quitlines are an effective way to reach young adult smokers (Cummins, Bailey, Campbell, Koon-Kirby, & Shu-Hong, 2007). This result is encouraging given that young smokers tend to report higher rates of smoking but are as interested in quitting as older adults (Solberg, Boyle, McCarty, Asche, & Thoele, 2007). Individuals with less education may have additional barriers to cessation including social factors and work environment (Ki Moon Bang, 2001). As expected, those individuals who are actively engaged in medical information seeking and trust the government are more aware of quitlines. Given that the main quitline access number in the United States is government-sponsored, trusting the government may indicate that these individuals may pay more attention to promotions for 1-800-Quit-Now.

Of those aware of quitlines, nearly 80% were specifically aware of the national portal number, 1-800-Quit-Now. This level of awareness is quite high when considering that some states do not advertise this national portal number but rather a state specific number. In addition, there has not been a national paid media campaign for 1-800-Quit-Now. Although encouraging, ideally awareness of this number should be much higher. Quitlines are a free service that provide reduced obstacles to participation. While it is encouraging that those in groups that have historically been more difficult to engage in traditional cessation treatments appear to be more aware of this service, this does not mean that all populations of concern are being reached. For example, awareness was lower among Blacks than Whites in this study. This finding suggests that continued outreach efforts to target diverse populations are warranted. It is important to note that there were no differences in ever calling a quitline by race; however, prior research suggests that quitlines may be an important resource for reaching diverse populations (Fiore et al., 2008).

Nearly 10% of smokers who were aware of quitlines reported ever having called a quitline. Prior research has indicated that past year use in adult smokers is 1.1% to 1.7% (Ossip-Klein & McIntosh, 2003). However, merely being aware of quitline services does not translate into behavior. Individuals with a family history of cancer and those with psychological distress were significantly more likely to have ever called a quitline. This is consistent with previous research that shows older adults with health problems and psychological distress are more likely to quit smoking than older adults with fewer problems (Sachs-Ericsson et al., 2009). Specific data with regards to the causal impact of cancer history on quitline use is unavailable, and this is an important area for future research. Together, these findings indicate that quitlines should be prepared to address ancillary issues or comorbid conditions in addition to cessation support.

While younger smokers were more aware of quitlines, findings indicated that older smokers were more likely to *call* a quitline. This is consistent with research showing that older adults are more likely to use behavioral or pharmacological cessation treatments (Shiffman, Brockwell, Pillitteri, & Gitchell, 2008). Although the bivariate analysis indicates that factors

such as age and household income are associated with calling a quitline, these factors were not statistically significant in the adjusted model. Unlike awareness, those who are using quitlines seem to be from the population at large rather than any specific demographic group. This suggests the strong need for strategies to increase engagement rather than simple awareness.

Results of the present study are informative; however, they must be considered in light of several limitations. We were interested in examining the characteristics of all individuals who were aware or had called a quitline, regardless of smoking status. While we might not expect nonsmokers to call the quitline, it is possible that they would do so on behalf of a loved one or encourage a loved one to use the service. This article was not focused on proxies; however, prior research has shown that 35% of quitline calls were made by proxies among Asian language speaking Asians (Zhu, Nguyen, Cummins, Wong, & Wightman, 2006), (Wong, & Wightman, 2006). Future research should examine the use of proxies in quitline utilization and the effectiveness of strategies to both reach this population and aid in cessation among smokers. The HINTS dataset is a cross-sectional study, and future studies may wish to examine the barriers to quitline use longitudinally to understand causal influences, including cessation attempts and maintenance. There was a limited amount of questions pertaining to tobacco use and as a result details regarding tobacco quit history and specifics of quitline service use (e.g., call-back service, call frequency, quality of service) were not available.

Although the response rate for the RDD survey is relatively low, this reflects a decreasing trend in response rates observed for all RDD telephone surveys; the response rate for HINTS is comparable to other national RDD telephone surveys (Nelson, Powell-Griner, Town, & Kovar, 2003). It cannot be determined from the data available whether systematic differences exist between responders and non responders. Low response rates are problematic when they introduce systematic differences between those who respond and those who do not, thereby limiting the generalizability of the results only to populations represented by responders (Groves, 1989). The data used in our analyses were weighted according to population census data to ensure greater population representativeness.

Although overall use of quitlines is low relative to its potential, results indicate that populations of significant need are aware of quitlines. A better understanding is needed of populations that are using specific types of services and how effective these services are for these subgroups. A future focus on how to translate awareness into behavior is essential to increase the public health impact of quitlines. Increased funding for state-run quitlines is needed in order to maximize smokers' utilization of the quitline via promotions and expand the capacity of quitlines to help as many smokers quit as possible. Tobacco quitlines are an effective means of providing wide reaching cessation treatment and are a cost-effective means to reducing the public health burden of tobacco.

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Table 1

SUDAAN-adjusted characteristics of individuals who are aware of quilines and those who have ever called a quiltline

	Aware of quiltline		Called Quiltline		Total sample % (N)
	Yes % (N)	No % (N)	Yes % (N)	No % (N)	
Total	49.8 (3452)	50.2 (3897)	3.5 (113)	96.5 (3252)	100 (7674)
Gender					
Male	49.7 (1392)	47.6 (1472)	44.5 (40)	50.2 (1322)	48.6 (2969)
Female	50.3 (2059)	52.4 (2424)	55.5 (73)	49.8 (1929)	51.4 (4696)
	$p = .25$		$p = .41$		
Age					
18-34	35.9 (614)	26.1 (454)	24.1 (16)	36.5 (585)	30.8 (1113)
35-49	28.9 (869)	30.3 (898)	29.6 (28)	28.8 (819)	29.6 (1831)
50-64	23.3 (1147)	23.4 (1233)	40.3 (54)	22.7 (1066)	23.1 (2451)
65+	12.0 (788)	20.3 (1282)	6.1 (15)	11.9 (749)	16.5 (2199)
	$p < .01$		$p < .05$		
Ethnicity					
White	71.8 (2607)	66.9 (2782)	74.7 (79)	71.4 (2454)	69.3 (5445)
Black	9.5 (277)	13.4 (399)	7.7 (9)	9.7 (264)	11.5 (687)
Latino	12.3 (258)	13.3 (354)	9.5 (9)	12.5 (244)	12.8 (622)
Other	6.4 (198)	6.5 (222)	8.1 (11)	6.5 (184)	6.4 (424)
	$p < .05$		$p = .77$		
Education					
Less than high school	14.3 (314)	13.3 (352)	22.5 (17)	14.1 (292)	13.9 (683)
High school graduate	24.0 (726)	29.0 (1048)	23.8 (30)	24.2 (683)	26.6 (1804)
Beyond high school	61.7 (2357)	57.7 (2424)	53.7 (65)	61.7 (2224)	59.6 (4829)
	$p < .05$		$p = .41$		
Household income					
<\$20 K	20.0 (524)	19.4 (595)	35.6 (34)	19.3 (473)	19.9 (1142)
\$20-35 K	15.8 (474)	17.5 (569)	17.8 (20)	15.8 (446)	16.7 (1056)
\$35-50 K	14.3 (422)	13.6 (441)	7.8 (10)	14.4 (400)	14.0 (873)
\$50-75 K	19.9 (598)	18.4 (597)	11.1 (14)	20.56 (573)	19.1 (1203)
\$75-100 K	11.7 (368)	12.1 (401)	13.8 (11)	11.7 (347)	11.8 (775)

	Aware of quitline		Called Quitline		Total sample % (N)
	Yes % (N)	No % (N)	Yes % (N)	No % (N)	
\$100 K or more	18.3 (615)	19.0 (647)	14.1 (10)	18.4 (583)	18.6 (1266)
<i>p</i> = .66					
Health care coverage				<i>p</i> < .05	
Yes	82.7 (2997)	82.9 (3423)	83.5 (95)	82.56 (2829)	82.7 (6666)
No	17.3 (410)	17.2 (422)	16.5 (16)	17.4 (386)	17.3 (878)
<i>p</i> = .90					
Smoking status				<i>p</i> = .85	
Current smoker	28.1 (829)	15.1 (420)	65.9 (71)	27.2 (751)	21.4 (1260)
Former smoker	24.4 (1009)	26.2 (1202)	21.8 (28)	24.6 (963)	25.3 (2238)
Never	47.5 (1575)	58.7 (2223)	12.3 (13)	48.2 (1508)	53.22 (3855)
<i>p</i> < .01					
Looked for health information from any source				<i>p</i> < .01	
Yes	73.8 (2699)	67.5 (2759)	92.0 (100)	73.1 (2523)	69.9 (5625)
No	26.2 (745)	32.5 (1126)	8.0 (13)	27.0 (721)	30.1 (2026)
<i>p</i> < .001					
The most recent time you looked for health information where did you go first?				<i>p</i> < .0001	
Internet	64.1 (1667)	59.3 (1520)	49.4 (53)	64.9 (1573)	61.2 (3255)
Health care professional	12.5 (348)	15.3 (465)	9.6 (11)	12.4 (321)	14.4 (853)
Others	23.4 (660)	25.5 (753)	41.0 (36)	22.7 (606)	24.4 (1470)
<i>p</i> = .054					
Trust doctor				<i>p</i> = .08	
A lot/some	94.3 (3249)	94.2 (3671)	93.8 (102)	94.3 (3065)	94.0 (7203)
A little/not at all	5.7 (176)	5.8 (197)	6.2 (9)	5.7 (164)	6.0 (408)
<i>p</i> = .91					
Trust internet				<i>p</i> = .86	
A lot/some	70.9 (2304)	71.7 (2431)	69.2 (70)	71.0 (2175)	70.5 (4853)
A little/not at all	29.1 (844)	28.3 (1030)	30.8 (31)	29.0 (793)	29.5 (2004)
<i>p</i> = .63					
Trust government				<i>p</i> = .80	
A lot/some	77.1 (2580)	72.7 (2710)	70.0 (78)	77.4 (2443)	74.5 (5477)

	Aware of quitline		Called Quitline		Total sample % (N)
	Yes % (N)	No % (N)	Yes % (N)	No % (N)	
A little/not at all	22.94 (770)	27.30 (1025)	30.01 (32)	22.57 (717)	25.5 (1900)
	$p < .05$		$p = .30$		
Regular or usual health care provider					
Yes	69.6 (2697)	68.8 (3034)	83.0 (96)	69.4 (2539)	68.9 (5944)
No	30.4 (730)	31.2 (827)	17.0 (17)	30.6 (689)	31.1 (1641)
	$p = .56$		$p < .05$		
Patient-centered communication					
Never	3.9 (79)	2.7 (85)	5.0 (4)	3.9 (72)	3.4 (172)
Sometimes	13.0 (325)	12.8 (346)	20.0 (18)	12.6 (297)	13.1 (698)
Usually	29.9 (841)	29.5 (977)	36.3 (31)	29.8 (791)	29.5 (1863)
Always	53.2 (1675)	54.9 (1876)	38.7 (45)	53.7 (1588)	54.0 (3667)
	$p = 0.53$		$p = 0.15$		
Cancer history					
Personal	6.2 (405)	8.5 (580)	7.9 (13)	6.2 (384)	7.43 (1001)
Family	66.3 (2154)	63.1 (2321)	80.9 (77)	65.5 (2018)	64.6 (4524)
None	27.5 (785)	28.4 (879)	11.2 (16)	28.3 (752)	27.9 (1685)
	$p < .001$		$p < .01$		
Psychological distress					
No	91.7 (3116)	92.6 (3521)	77.0 (88)	92.5 (2956)	92.1 (6702)
Yes	8.3 (210)	7.4 (201)	23.0 (22)	7.5 (182)	7.9 (418)
	$p = 0.45$		$p < 0.05$		
Aware of 1-800-quit-now					
No	43.4 (1378)	84.3 (3235)	35.0 (33)	43.9 (1317)	63.9 (4640)
Yes	56.5 (1959)	15.7 (590)	65.0 (78)	56.1 (1831)	36.1 (2566)
	$p < 0.01$		$p = 0.17$		

Table 2

Results of logistic regression predicting awareness of quitlines

	OR	95% Confidence interval	p value
Age			
18–34	2.10	1.65–2.66	.0000
35–49	1.42	1.21–1.66	
50–64	1.50	1.25–1.78	
65+	1.00		
Ethnicity			
White	1.00		.0187
Black	0.59	0.42–0.83	
Latino	0.80	0.60–1.08	
Other	0.87	0.56–1.34	
Education			
Less than high school	1.35	1.02–1.79	.0245
High school graduate	0.86	0.68–1.08	
Beyond high school	1.00		
Smoking status			
Current	2.28	1.89–2.75	.0000
Former	1.22	1.06–1.40	
Never	1.00		
Looked for health or medical information from any source?			
Yes	1.40	1.14–1.73	.0021
No	1.00		
Trust government			
A lot/some	1.25	1.05–1.48	.0118
A little/not at all	1.00		
Cancer history			
Personal	0.88	0.71–1.08	.3126
Family	1.03	0.86–1.22	
None	1.00		

Note. *p* value based on Wald *F* *p* value.

Table 3

Results of logistic regression predicting having ever called a quitline

	OR	95% Confidence interval	<i>p</i> value
Smoking status			
Current	9.25	3.18–26.85	.0002
Former	3.81	1.19–12.23	
Never	1.00		
Looked for health or medical information from any source?			
Yes	3.86	1.65–9.04	.0025
No	1.00		
Cancer history			
Personal	2.73	0.83–8.93	.0493
Family	2.85	1.23–6.62	
None	1.00		
Psychological distress			
No	0.42	0.21–0.83	.0138
Yes	1.00		

Note. *p* value based on Wald F *p* value.