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Original Investigation

Chronic illness and smoking cessation

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Abstract

Introduction: Smoking is among the leading causes of premature mortality and preventable death in the United States. Although smoking contributes to the probability of developing chronic illness, little is known about the relationship between quitting smoking and the presence of chronic illness. The present study investigated the association between diagnoses of one or more chronic diseases (diabetes, hypertension, or high cholesterol) and smoking status (former or current smoker).

Methods: The data analyzed were a subset of questions from a 155-item telephone-administered community survey that assessed smoking status, demographic characteristics, and presence of chronic disease. The study sample consisted of 3,802 randomly selected participants.

Results: Participants with diabetes were more likely to report being former smokers, after adjusting for sociodemographic characteristics, whereas having hypertension or high cholesterol was not associated significantly with smoking status. The likelihood of being a former smoker did not increase as number of diagnosed chronic diseases increased. Participants who were women, older (aged 65+), or single were significantly less likely to be former smokers. Participants with at least a college degree, those with incomes of US$50,000+, and those who were underweight or obese were more likely to be former smokers.

Discussion: These findings were inconsistent with research that has suggested that having a chronic illness or experiencing a serious medical event increases the odds of smoking cessation. Supporting prior research, we found that being male, having a higher income, and being obese were associated with greater likelihood of being a former smoker.

Introduction

Smoking is one of the leading causes of premature mortality worldwide and remains the leading cause of preventable death in the United States (Centers for Disease Control and Prevention [CDC], 2002). It is a major risk factor for several diseases, including lung cancer (Pirozynski, 2006), coronary heart disease (Redfern, Ellis, Briffa, & Freedman, 2006), stroke (Hankey, 2005), and respiratory diseases (Frank, Morris, Hazell, Linehan, & Frank, 2006). Smokers with chronic illnesses are at especially high risk for poor health outcomes, not just from the chronic illnesses themselves but also from the adverse outcomes associated with their smoking behavior. For example, smokers with diabetes are considered to have a risk for future coronary events that is equivalent to those who have already experienced one cardiac event. Apart from the burden of smoking on individuals, smoking costs society billions of dollars annually as measured by health care costs and mortality-related productivity losses (Bertakis & Azari, 2006; Bunn, Stave, Downs, Alvir, & Dirani, 2006; CDC, 2002).

An estimated 20.9% (ca. 45 million) of U.S. adults currently smoke cigarettes (CDC, 2006). Smoking prevalence varies by racial group, age, gender, and education (Adams & Schoenborn, 2006; CDC, 2005, 2006). American Indian/Alaska Native adults (32.9%) are most likely to be smokers, followed by White (22.2%), Black (20.9%), and Asian adults (11.6%). Smoking is most prevalent among adults aged 18–44 years (25.0%) and is more prevalent among men than women.

The deleterious effects of smoking on public health have lead to numerous behavioral (Brown et al., 2001; Hennrikus et al., 2005; Lancaster & Stead, 2005; Lichtenstein, Glasgow, Lando, Ossip-Klein, & Boles, 1996) and pharmacotherapeutic (Croghan et al., 2007; Lerman et al., 2004; Saules et al., 2004) smoking cessation interventions, which have had varying degrees of success. Behavioral programs have been implemented in a variety of settings (hospitals, workplace) and using different modalities (telephone counseling, Internet-based, group format, brief vs. multiple counseling). Pharmacotherapeutic interventions have focused primarily on nicotine replacement agents (nicotine gum, patch, nasal spray, and spray) and antidepressants such as bupropion. The effectiveness of these smoking cessation programs has been associated with several sociocultural factors. For

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example, being married (Madan et al., 2005; van Loon, Tijhuis, Surtees, & Ormel, 2005) and having a high level of motivation (Dotinga, Schrijvers, Voorham, & Mackenbach, 2005; Franks, Pienta, & Wray, 2002) have been associated with higher smoking cessation rates, whereas lower educational attainment (Wetter et al., 2005), lower income (Honjo, Tsutsumi, Kawachi, & Kamakami, 2006), and early age at smoking onset (Eisner et al., 2000) have been associated with lower smoking cessation rates. Rates of smoking cessation also have been shown to be affected by a variety of biological factors, including being male (Green, Jay Lynn, & Montgomery, 2006; Hyland et al., 2004; Hymowitz et al., 1997), being older (Hymowitz et al., 1997; van Loon et al., 2005), and being White (King, Polednak, Bendel, Vilsaint, & Nahata, 2004; Madan et al., 2005).

Despite mounting evidence that smoking exacerbate the impact of chronic diseases such as diabetes (Eliasson, 2003; Haire-Joshu, Glasgow, & Tibbs, 1999), sparse research has examined the role of being diagnosed with these diseases on smoking cessation. Research in this area has focused primarily on the relationships between quitting smoking and cancer, pregnancy, stroke, and myocardial infarctions. A few studies have indicated that a diagnosis of a chronic disease such as hypertension increases the smoker's motivation for and odds of quitting smoking (Gulliford, 2001; Salive et al., 1992; Wilkes & Evans, 1999).

The present study investigated the association between the presence of diabetes, hypertension, or high cholesterol and smoking behavior. Two hypotheses were addressed: (a) having a diagnosis of diabetes, high cholesterol, or hypertension is associated with quitting smoking and (b) the likelihood of quitting smoking is associated with the number of chronic illnesses reported.

Methods

Data sources

As part of the Nashville REACH 2010 evaluation efforts, a 155-item questionnaire was developed to assess health practices, health care access, health status, and sociodemographic status of participants. The survey was modeled after the CDC's Behavioral Risk Factor Surveillance System and contained many identically worded questions, including those that targeted smoking and other health behaviors. Smoking status was self-reported and imputed from two questions: (a) Have you smoked at least 100 cigarettes in your lifetime? (b) Do you currently smoke some days, every day, or not at all? Individuals who responded that they had smoked but did not currently smoke at all were classified as former smokers, whereas current smokers were those who said that they currently smoked some days or every day. Individuals who responded that they had never smoked were not included in the analysis.

Sampling strategy

A total of 16,200 randomly selected residential telephone numbers were purchased from SDR Sampling Services, Inc. (Atlanta, GA). The sample was stratified by two geographic areas of interest: North Nashville (NN) and the rest of Nashville/Davidson County (NDC). A total of 9,000 residential numbers in NN and 7,200 numbers in all other areas of NDC were randomly selected. Only household members who were at least 18 years of age were eligible to participate.

The survey was conducted by trained interviewers with a computer-assisted telephone interviewing system. The system was programmed to randomly sample telephone numbers within geographic areas. Trained interviewers called each selected number up to 10 times and interviewed one household member who agreed to participate in the survey. Each dialed number was coded and stored in a database. This database contained information about outcomes of telephone calls, including number of attempted calls and rescheduled or completed interviews. After adjusting for disconnected telephone numbers, reaching fax/modem, nonresidential numbers, and physically unable or ineligible respondents, the adjusted response rates were 38% for NN and 26% for NDC. Additional details on the survey methods have been published elsewhere (Miller et al., 2004).

Results

Analysis plan

We computed the percentages of responses (and associated *CI*s) for all demographic (gender, age, race, employment status, income, marital status, and education) and health status (weight categories of normal, overweight, obese; self-rated general health status categories of excellent, very good, good, or fair–poor) variables. Crude and adjusted logistic regression analyses were conducted to determine the association between presence of chronic diseases and smoking behavior (former or current smoker) by calculating odds ratios (*OR*s) and 95% *CI*s. All sociodemographic and two general health status (weight categorization and overall rating of health) variables were included as covariates in the adjusted analysis. This approach will identify the probability among respondents of being a former smoker based on demographic factors, health status, and presence of chronic disease.

Description of sample

For the characteristics of the survey respondents, see Table 1. Overall, 17% of the sample identified themselves as former smokers and 25% were self-identified as current smokers. A majority of the study sample were women (60%) and 43% were Black. Based on self-reported height and weight, 34% were classified as overweight and another 28% were obese. The majority of the sample was aged 45 years or older (59%) and employed (56%). Approximately 45% of the sample had annual household incomes of less than $25,000 and 49% had either a high school degree or a lesser education. A total of 11% of the sample reported a prior diagnosis of diabetes, whereas 42% and 37% reported being diagnosed with hypertension and high cholesterol, respectively. A majority of the sample reported their general health as being good or fair (54%).

Binary logistic regression analysis

Table 2 summarizes the *OR*s and 95% *CI*s of smoking cessation status according to sociodemographic factors and chronic disease status. A binary logistic regression was run using smoking cessation status (yes: former smoker, no: current smoker) as the dependent variable. Independent variables included gender, age, education, employment, annual income, marital status, race,

Table 1. Participant characteristics of the Nashville REACH 2010 baseline survey

Characteristics	All participants ($N = 3,104$)	Former smokers ($n = 521$)	Current smokers ($n = 768$)
Gender			
Male	39.91 (38.16–41.66)	46.83 (42.53–51.13)	42.06 (38.56–45.56)
Female	60.09 (58.34–61.84)	53.17 (48.87–57.47)	57.94 (54.44–61.44)
Age, years			
18–24	7.94 (6.46–9.42)	4.94 (3.05–6.84)	10.19 (8.02–12.35)
25–34	12.14 (10.35–13.93)	8.30 (5.89–10.71)	14.68 (12.15–17.21)
35–44	20.70 (18.48–22.92)	15.61 (12.44–18.79)	23.81 (20.77–26.85)
45–54	22.41 (20.13–24.70)	22.53 (18.88–26.18)	22.62 (19.63–25.61)
55–64	18.83 (16.69–20.97)	21.94 (18.32–25.55)	16.93 (14.25–19.61)
65+	17.98 (15.87–20.08)	26.68 (22.81–30.55)	11.77 (9.47–14.08)
Education			
Less than high school	19.24 (17.83–20.65)	18.13 (14.82–21.44)	25.46 (22.37–28.55)
High school graduate	29.89 (28.25–31.53)	31.49 (27.50–35.48)	32.51 (29.18–35.83)
Some college	23.08 (21.57–24.59)	23.47 (19.83–27.11)	24.80 (21.74–27.87)
College graduate or more	27.79 (26.18–29.39)	26.91 (23.10–30.72)	17.23 (14.55–19.91)
Employment			
Employed	55.95 (54.17–57.73)	47.61 (43.32–51.90)	59.92 (56.43–63.41)
Unemployed	2.30 (1.94–3.06)	1.91 (0.73–3.10)	3.55 (2.23–4.87)
Homemaker	4.50 (3.76–5.24)	4.40 (2.63–6.16)	4.47 (3.00–5.94)
Student	2.27 (1.73–2.80)	0.96 (0.12–1.79)	1.58 (0.69–2.46)
Retired	28.29 (26.68–29.90)	39.58 (35.37–43.78)	20.24 (17.38–23.10)
Unable to work	6.50 (5.62–7.38)	5.54 (3.58–7.51)	10.25 (8.90–12.41)
Annual income			
<$15,000	16.46 (14.23–18.70)	13.38 (10.13–16.63)	18.74 (15.66–21.82)
$15,000–$24,999	29.16 (26.43–31.90)	26.53 (22.32–30.74)	30.69 (27.05–34.34)
$25,000–$49,999	35.65 (32.77–38.54)	34.98 (30.43–39.52)	35.86 (32.08–39.65)
$50,000+	18.72 (16.37–21.07)	25.12 (20.98–29.25)	14.70 (11.90–17.50)
Marital status			
Married/cohabitate	42.11 (40.34–43.88)	45.80 (41.52–50.08)	36.35 (32.93–39.77)
Divorced/separated/widowed	36.72 (34.99–38.45)	41.98 (37.75–46.22)	40.94 (37.45–44.44)
Single	21.17 (19.71–22.64)	12.21 (9.40–15.03)	22.70 (19.72–25.68)
Race			
Black	42.93 (41.16–44.70)	51.90 (47.62–56.19)	44.14 (40.62–47.66)
White	57.07 (55.30–58.84)	48.10 (43.82–52.38)	55.86 (52.34–59.38)
Body mass index category			
Normal weight	34.65 (31.97–37.32)	30.96 (26.80–35.12)	36.94 (33.41–40.48)
Underweight	3.28 (2.28–4.29)	1.67 (0.52–2.83)	4.31 (2.82–5.79)
Overweight	34.40 (31.73–37.07)	36.19 (31.87–40.52)	33.06 (29.61–36.50)
Obese	27.67 (25.15–30.18)	31.17 (27.00–35.34)	25.69 (22.50–28.89)
Diabetes			
Yes	11.47 (10.33–12.61)	15.05 (11.98–18.12)	10.04 (7.91–12.17)
No	88.53 (87.39–89.67)	84.95 (81.88–88.02)	89.96 (87.82–92.09)
High blood pressure			
Yes	41.55 (39.79–43.32)	47.99 (43.70–52.29)	43.91 (40.38–47.43)
No	58.45 (56.68–60.21)	52.01 (47.71–56.30)	56.09 (52.57–59.62)
High cholesterol			
Yes	36.63 (33.58–39.68)	36.26 (31.65–40.86)	36.99 (32.83–41.16)
No	63.37 (60.32–66.42)	63.74 (59.14–68.35)	63.01 (58.84–67.17)
Self-reported general health			
Excellent	13.79 (12.53–15.04)	12.10 (9.25–14.96)	7.01 (5.13–8.89)
Very good	31.62 (29.93–33.32)	28.97 (25.00–32.94)	30.01 (26.64–33.39)
Good	36.44 (34.68–38.20)	40.87 (36.57–45.18)	39.41 (35.82–43.01)
Fair–poor	18.15 (16.74–19.56)	18.06 (14.69–21.43)	23.56 (20.44–26.69)
Chronic diseases			
No chronic diseases	46.48 (44.70–48.26)	36.85 (32.70–41.01)	44.66 (41.14–48.19)
One chronic disease	35.90 (34.19–37.61)	40.31 (36.08–44.53)	38.02 (34.58–41.46)
Multiple chronic diseases	17.61 (16.26–18.98)	22.84 (19.22–26.56)	17.32 (14.64–20.00)

Note. All values are percentages with 95% *CI*s.

Table 2. Results of binary logistic regression for smoking status as the dependent variable

Variable	Unadjusted odds ratio	95% *CI*		Adjusted odds ratio[a]	95% *CI*	
		Lower	Upper		Lower	Upper
Gender						
Male	1.00			1.00		
Female	0.76	0.61	0.94	0.76	0.58	1.00
Age, years						
18–24	1.00			1.00		
25–34	0.85	0.51	1.40	1.19	0.64	2.20
35–44	0.76	0.48	1.18	1.14	0.64	2.03
45–54	1.08	0.70	1.66	1.55	0.85	2.84
55–64	1.48	0.95	2.32	1.84	0.94	3.59
65+	2.76	1.72	4.43	4.76	2.25	10.06
Education						
Less than high school	1.00			1.00		
High school graduate	1.16	0.86	1.56	1.80	1.22	2.66
Some college	1.26	0.91	1.73	1.76	1.16	2.69
College graduate or more	2.21	1.58	3.10	2.24	1.42	3.53
Employment						
Employed	1.00			1.00		
Unemployed	1.53	0.84	2.79	1.69	0.79	3.64
Homemaker	1.99	1.19	3.32	2.07	1.11	3.85
Student	4.41	2.10	9.25	1.28	0.46	3.53
Retired	2.57	1.98	3.34	1.94	1.21	3.09
Unable to work	0.90	0.60	1.37	1.32	0.75	2.30
Annual income						
<$15,000	1.00			1.00		
$15,000–$24,999	0.96	0.66	1.38	1.20	0.75	1.93
$25,000–$49,999	1.02	0.72	1.45	1.50	0.91	2.46
$50,000+	2.22	1.46	3.38	2.40	1.33	4.33
Refuse	1.10	0.74	1.62	1.32	0.80	2.17
Marital status						
Married/cohabitate	1.00			1.00		
Divorced/separated/widowed	0.80	0.63	1.02	1.34	0.88	2.03
Single	0.69	0.51	0.92	1.26	0.83	1.93
Race						
Black	1.00			1.00		
White	0.71	0.57	0.89	0.67	0.50	0.89
Body mass index category						
Normal weight	1.00			1.00		
Underweight	1.91	1.15	3.16			
Overweight	1.30	0.99	1.71	1.15	0.53	2.48
Obese	1.48	1.11	1.98	1.55	1.11	2.16
Refuse	2.55	1.65	3.95	2.28	1.59	3.27
Diabetes						
Yes	1.00			1.00		
No	0.46	0.37	0.57	0.58	0.38	0.90
Hypertension						
Yes	1.00			1.00		
No	0.80	0.64	1.00	1.30	0.75	2.26
High cholesterol						
Yes	1.00			1.00		
No	0.84	0.64	1.08	1.09	0.67	1.78
Refuse	0.52	0.39	0.71	0.70	0.41	1.20
Self-reported general health						
Excellent	1.00			1.00		
Very good	0.37	0.25	0.55	0.46	0.29	0.75
Good	0.38	0.26	0.55	0.52	0.32	0.84
Fair–poor	0.32	0.21	0.49	0.36	0.21	0.62
Chronic diseases						
No chronic diseases	1.00			1.00		
One chronic disease	1.29	1.01	1.65	1.07	0.59	1.94
Multiple chronic diseases	2.07	1.55	2.77	1.26	0.50	3.18

Note. [a]Odds ratios adjusted by all listed variables.

body mass index, diabetes, high blood pressure, high cholesterol, self-reported general health, and chronic disease status. A chronic disease status variable was computed so that participants who had a diagnosis of diabetes, hypertension, or cholesterol were classified as having at least one chronic disease. If they had two or more diagnoses, they were classified into the multiple chronic diseases category. To avoid losing important information, we chose "missing value," "don't know," and "refuse" as one categorical group to analyze if the number of missing values of a variable was more than 27% or 0.8% of total observations.

A majority of the unadjusted *OR*s were significant for smoking cessation status. Women were significantly less likely than men to be former smokers (*OR* = 0.76, 95% *CI* = 0.61–0.94); and participants aged 65 years or older were significantly more likely to be former smokers, compared with adults aged 18–24 years (*OR* = 2.76, 95% *CI* = 1.72–4.43). Participants with at least a college degree were more likely to be former smokers, compared with those with less than a high school education (*OR* = 2.21, 95% *CI* = 1.58–3.10); and participants with an annual household income of $50,000 or more were more likely to be former smokers, compared with those making less than $15,000 (*OR* = 2.22, 95% *CI* = 1.46–3.38). Those who were single were less likely to be former smokers, compared with those who were married or cohabitating (*OR* = 0.69, 95% *CI* = 0.51–0.92). The following *OR*s were significant for employment status: employed versus retired (*OR* = 2.59, 95% *CI* = 1.98–3.34), employed versus student (*OR* = 4.41, 95% *CI* = 2.10–9.25), and employed versus homemaker (*OR* = 1.99, 95% *CI* = 1.19–3.32).

For the health variables, compared with normal weight participants, underweight (*OR* = 1.91, 95% *CI* = 1.15–3.16) and obese participants (*OR* = 1.48, 95% *CI* = 1.11–1.98) were more likely to be former smokers. Participants without diabetes were less likely to be former smokers, compared with those with diabetes (*OR* = 0.46, 95% *CI* = 0.37–0.57); and participants without hypertension were less likely to be former smokers, compared with those diagnosed with hypertension (*OR* = 0.80, 95% *CI* = 0.64–1.00). Participants who reported their general health as fair, good, or very good were less likely to be former smokers, compared with those who reported excellent health. Finally, compared with participants not diagnosed with any chronic disease, participants diagnosed with diabetes, hypertension, or high cholesterol (*OR* = 1.29, 95% *CI* = 1.01–1.65) or with multiple chronic diseases (*OR* = 2.07, 95% = 1.55–2.77) were more likely to be former smokers.

A few of the bivariate relationships discussed above changed after adjusting for gender, age, education, employment, annual income, race, body mass index, diabetes, and self-reported general health. Additional significant associations were found between smoking cessation status and education and weight. The adjusted odds ratios (*AOR*s) for education and body mass index category were as follows: some college versus less than high school (*AOR* = 1.76, 95% *CI* = 1.16–2.69), high school versus less than high school (*AOR* = 1.80, 95% *CI* = 1.22–2.66), and overweight versus normal weight (*AOR* = 1.55, 95% *CI* = 1.11–2.16). Several bivariate associations were not detected after controlling for the other factors: single versus married/cohabitating, prior diagnosis of high blood pressure versus no diagnosis, one chronic disease versus no chronic diseases, multiple chronic diseases versus no chronic diseases, underweight versus normal weight, and student versus employed.

Discussion

Of the diseases we examined, diabetes was the only one that had a significant association with former smoking status after adjusting for several demographic factors. Participants who reported that they had never been diagnosed with diabetes were approximately half as likely (*OR* = 0.46; *AOR* = 0.50) to be former smokers, compared with those who reported that they had diabetes. The diagnoses of hypertension and high cholesterol did not have significant associations with quitting smoking. Also, the likelihood of being a former smoker did not increase with an increase in the number of diagnosed chronic diseases. These findings were contrary to preliminary research in this area that has suggested that being diagnosed with a chronic illness or experiencing a medical event such as a heart attack increases the odds of smoking cessation (Gulliford, 2001; Wilkes & Evans, 1999).

The finding of a relationship between diabetes and smoking status may have clinical significance. Newly diagnosed patients with diabetes may represent a "teachable moment" for smoking cessation. Teachable moments have been described frequently as any naturally occurring life or health events that increase the motivation of a person to either adopt a new protective health behavior or reduce the frequency of risky behaviors (McBride, Emmons, & Lipkus, 2003). When smokers are newly diagnosed with diabetes or receive diabetes care, they are confronted with the seriousness of their health condition. A serious chronic illness such as diabetes may prompt an emotional reaction that could increase motivation to change behavior. During these teachable moments, physicians or nurses may be able to influence the patient's likelihood of quitting smoking by providing encouragement, education on the health benefits of smoking cessation, and concrete strategies and resources for quitting.

The results regarding hypertension and high cholesterol are somewhat surprising in the context of health behavior models that indicate that adoption of preventive health behaviors should be greater when an event such as being diagnosed with a chronic disease heightens a person's perception of vulnerability regarding health (Bandura, 1977; Fishbein & Ajzen, 1975; Weinstein, 1998). The health belief model, for example, suggests that behavior change is more likely to result if an individual feels susceptible to a specific health risk (Rosenstock, 1974). A possible explanation for these results is that individuals may base their perceptions about the outcomes of smoking on the seriousness of a health event. A diagnosis of cancer or diabetes, or hospitalization for a myocardial infarction, may be perceived as more serious than a diagnosis of hypertension or high cholesterol and, hence, may be more likely to lead to smoking cessation.

The other results of the present study supported prior findings about the relationships between demographic variables and smoking cessation status. For example, being male (Green et al., 2006; Hyland et al., 2004), being White (King et al., 2004; Madan et al., 2005), having a higher income (Honjo et al., 2006), having a higher level of education (Wetter et al., 2005), and being older (Hymowitz et al., 1997; van Loon et al., 2005) were associated with a greater likelihood of being a former smoker. Being obese, compared with normal weight status, also was associated with being a former smoker. Previous research has demonstrated that quitting smoking is associated with significant weight gain;

however, it remains unclear whether obesity is the result of weight gain from quitting smoking or whether obese individuals are exposed more frequently to advice about quitting smoking to improve their health.

The present study has some limitations. First, all variables were based on self-report, and respondents may have been unwilling or may not have had accurate knowledge about their health status. Although evidence supports the validity of self-reported smoking status (Patrick et al., 1994), biases may result due to under- or overreporting of smoking behavior. Second, the data were cross-sectional in nature and the statistical approach used was correlational; thus, causation cannot be inferred. Third, the study did not include a measure of mental health status, which has been demonstrated to have an association with chronic disease. For example, research suggests that an association exists between depression and the presence of diabetes, after adjusting for socioeconomic and lifestyle factors (Golden et al., 2008).

The present study has important implications for future research on and treatment for smoking cessation. Future research could explore the use of methodological triangulation (i.e., multiple methods and data sources) to further determine the relationship between smoking behavior and the presence of chronic illness. These methods could incorporate data that document physician diagnoses such as extractions from medical records. In addition, physiological samples could be obtained to determine levels of use or exposure to tobacco smoke. Blood or urine cotinine tests are sometimes used to evaluate compliance with smoking cessation programs. The use of multiple methods such as these may better our understanding of the relationship between chronic disease and smoking behavior.

The significant relationship we found between various demographic health-related variables and smoking cessation suggests that the effectiveness of smoking cessation programs could be increased by taking these variables into account. From a cost-benefit framework, providing treatments to specific groups, such as older adults who have diabetes, may be most beneficial with regard to smoking cessation success. Also, this study highlights the need for future research to focus on strategies and techniques for improving smoking cessation rates among certain populations, including younger adults, those who are single, women, and those who are obese.

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Declaration of Interests

None declared.

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