Willingness to pay for smoking cessation treatments

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Abstract

This paper demonstrates the use of willingness to pay to value hypothetical new smoking cessation products. Data comes from a baseline survey of participants in a clinical trial of naltrexone combined with nicotine patch for smoking cessation (N=400) conducted in New Haven, CT. We analyze individual willingness to pay for a hypothetical tobacco cessation treatment that is 1) more effective than those currently available, and then 2) more effective and attenuates the weight gain often associated with smoking cessation. A majority of the respondents (280 or 86 %) were willing to pay for the more effective treatment, and of those, 175 (66 %) were willing to pay more if the increased effectiveness was accompanied by the attenuation of the weight gain associated with smoking cessation. This study suggests the validity of using willingness to pay surveys in assessing the value of new smoking cessation products and products with multifaceted improvements. From these data we calculate estimates of the value of a quit. For the population studied this survey suggests a substantial market for more effective smoking cessation treatments.

Introduction

Although sixty-eight percent of smokers report being 'interested' in quitting (1), less than 20 percent of smokers report planning on quitting in the next month (2). Of these, only a percentage quit and then maintain their abstinence (3). This suggests there are still substantial barriers to quitting. For those that do attempt to quit, pharmacotherapies are both recommended by the clinical practice guidelines (4) and frequently used (5). Researchers estimate that 37 percent of all quits in 1998 in the US were associated with medication use (6). Yet, the set of available treatments indicate room for improvement. Estimates from meta-analyses of the effectiveness rates for the current 'first line' smoking cessation treatments with counseling range from 17 percent for the nicotine patch to 30 percent for buproprion SR (4). Moreover, historical evidence suggests the availability of new products or changes in existing products can increase the number of quits. The CDC estimates that the switch of NRT to over the counter status increased the number of successful quitters in the US (in one year) by 630,000 (7). Thus, it is likely smokers will value new or improved smoking cessation treatments highly, and that the introduction of improved treatments will confer great value.

In this study, we demonstrate the use of a contingent valuation method called Willingness to Pay (WTP) to measure consumer value of attributes of a new smoking cessation treatment. While this technique has been used widely in the economics literature, to our knowledge, this is the first time that WTP has been used to assess smoking cessation treatments. We are interested in how many smokers and which smokers would value a hypothetical new treatment that 1) has improved efficacy and 2) is not associated with weight gain. By documenting the value of these attributes to smokers, manufacturers can make more informed decisions about research, development and marketing of new products. This information may also help insurers (both public and private) make decisions regarding coverage of cessation treatments. That individuals place high value on a treatment sends a clear message to employers that these treatments should be included in insured benefits.

This study has three purposes. First, using survey data from a smoking cessation treatment seeking population in New Haven, CT, we demonstrate the use of the WTP methodology in the context of smoking cessation. We provide information on whether a market for a treatment with increased effectiveness exists. We use the value of an incremental quit rate to infer the 'value of quitting' for the subjects in our sample. Second, we consider the incremental effect on this market if that treatment attenuated the weight gain normally associated with cessation. Finally, we validate the responses to individual WTP questions, based on demographic and other characteristics from the literature expected to be associated with positive WTP. We then characterize the market and quantify the level of WTP for these subgroups of our study population.

Methods:

Willingness to pay:

For products that are being marketed and sold, the demand for a product provides information on the value of the benefits of that product to consumers. Economists call obtaining this value from demand observations 'revealed preference.' In the case of smoking cessation treatments that are currently in development, the treatment is not available in the market, so revealed preference is not applicable. In response to the need for information on the value of goods not traded in competitive markets, economists have developed methods and tools for eliciting such information from individuals. One such method is contingent valuation, and one method for eliciting contingent valuation is the willingness to pay (WTP) survey. First used in 1963, WTP was originally developed to measure the value of environmental attributes. WTP has been used extensively in valuing environmental policies because there is no market for environmental changes. For example, in the Exxon Valdez litigation, the state of Alaska used WTP to demonstrate that people would value Prince William Sound being free of oil, even if they did not personally use the Sound (8). In other cases, environmentalists have used WTP to demonstrate that individuals value the protection of endangered species (9).

More recently, WTP has been used extensively in the health field. Contingent valuation methods have been used in measuring the value of health services. Published

applications include chemotherapy treatment, (10), prevention and control of influenza, (11), chronic lung disease, (12), hypertension, (13), angina, (14, 15), screening tests, (16), lipid reduction, (17), arthritis, (18), side effects of treatments, (19), obesity treatment, (20) ovarian cancer treatments, (21), hormone replacement therapy, (22), shingles, (23), bleeding disorder, (24), drug abuse treatment, (25), and psoriasis and atopic eczema, (26). A recent review by Olsen and Smith summarizes over 71 WTP surveys of health and health care published between 1985 and 1998 (27).

Using a carefully designed survey instrument, researchers may elicit survey respondents' Willingness to Pay (WTP) for an intervention or a good. To provide reliable estimates, questions should be framed in a well defined context such that to the respondent the situation mimics one that is familiar – that is, one they may actually face in the market. Because individuals typically choose among products with varying prices in the market, individual's valuations are more accurate when they compare products rather than provide an overall value. Thus, it is important to allow the respondent to compare to another well understood product. Responses are typically in dollar terms. This metric is common and familiar to the respondent (once again, mimicking a market situation) and allows respondents to mentally trade off a wide range of commodities, not just those related specifically to the survey question.

In the case of smoking cessation products, one can use the additional value to the consumer from improved effectiveness (incremental quit rate), to infer the overall value of quitting. This information can be useful to decision makers. For example, the 'value of quitting' to the patient can be compared to the cost of programs that aid smoking cessation, such that employers can make more informed decisions about adopting various programs. If one stratifies the analysis of responses, the researcher can also estimate whether there are subgroup differences in this value (e.g., gender, education).

<u>The value of increased treatment effectiveness:</u>

Several pharmacological interventions have been developed for aiding smoking cessation, although no treatment is uniformly effective. In this study, we first measure

the willingness to pay for a hypothetical treatment with a much greater effectiveness than those currently on the market. Potentially there are two types of individuals who may benefit. First, individuals who previously had sought treatment are now more likely to be successful. Second, those individuals who previously did not purchase the treatment may now be more likely to try a smoking cessation treatment given the increased prospects for success. In this research we attempt to gain information on the first group.

The value of non-health side effects:

The current health care market is characterized by extensive direct to consumer advertising, such that non-health side effects are often important in the purchase decision of pharmaceuticals. For example, in 1988 new antidepressants were introduced that had fewer side effects, but no increase in medical efficacy (i.e., the Selective Serotonin Reuptake Inhibitors). Although these drugs were as much as ten fold more expensive, they quickly captured most of the market due to their reduced side effects.

In the area of smoking, one important side effect of smoking cessation is weight gain; smokers put on an average of 6.4 pounds after quitting smoking (28). This side effect of smoking cessation may discourage some smokers from quitting, particularly smokers who are obese prior to the quit attempt. Body weight concerns have been reported to be a major reason for continued smoking cited by smokers (28). In smokers who manage to achieve abstinence, weight gain has been shown to be a significant barrier to maintenance of abstinence (29, 30), although some available treatments may ameliorate this problem (e.g, bupropion) (31).

Thus, a new treatment that successfully attenuates weight gain may have significant value to smokers in at least three ways. Similar to increased effectiveness, this side benefit might cause more people to seek treatment and thus successfully quit. Those seeking treatment may enjoy improved quality of life (and potential health benefits) due to the resulting lower weight. Some that previously sought treatment but were unsuccessful due to weight gain, might be more likely to maintain abstinence.

Validation

While there are no direct tests of the *criterion validity* of WTP in the health care setting since actual markets may not exist, several tests of *construct validity* have been conducted (32). Two simple 'constructs' can be tested – higher income should be associated with higher WTP and the more of a positively valued good supplied, the greater should be a persons' WTP. Such "scope" tests have been widely endorsed (33), and have been demonstrated in several health care WTP studies (10, 34).

To validate responses, we use the relationship between WTP and demographic characteristics collected during the baseline interview. For example, we expect low income individuals to be less willing to pay generally. Because surveys suggest women are more concerned with weight gain (35) we expect women to be more likely than men to be willing to pay more for a treatment with reduced weight gain. Stratifying effects by population subgroups also indicates who values pharmacotherapy effectiveness and what dimensions they value (effectiveness versus weight control).

Study Population:

Subjects included 400 cigarette smokers participating in a clinical trial of naltrexone combined with nicotine patch. Smokers were recruited to smoking cessation clinics in New Haven and the Veteran Affairs (VA) CT healthcare system. To be included in the study, potential subjects had to report daily smoking of 20 or more cigarettes a day for at least one year, be at least 18 years of age, have at least one prior quit attempt, have a baseline expired carbon-monoxide level of at least 10 ppm, weigh at least 100 pounds and be English speaking. Current alcohol or drug dependence, current major depression, pregnancy or unstable cardiac disease resulted in exclusion from the study. At the time of recruitment, potential study participants were asked to complete an extensive baseline interview. The variables considered here were collected as part of that baseline interview.

Measures

Outcome variables:

Study subjects were asked a series of questions related to their willingness to pay for treatments to aid smoking cessation. We focused on the willingness to pay for increased effectiveness first and then reduced weight gain. Specifically, respondents were asked: "We are interested in knowing how much you would be willing to pay for treatment to help you quit smoking. Now imagine the possible hypothetical situation. The nicotine patch, if taken as prescribed, improves the chance of successfully quitting smoking. On average, individuals who try to quit with no help only succeed eight percent of the time. However, with the nicotine patch, the success rate improves to twenty five percent. An eight-week course of the nicotine patch costs roughly $240, or $30 per week for eight weeks. Would you be willing to pay $50 per week (an addition of $20 per week over the patch alone) for a treatment that doubled the chance you would successfully quit smoking compared to the patch?" The $20 figure was chosen because this was the upper bound cost on the treatment being considered ($3/day). This question elicited a "yes" or "no" response.

If the respondent answered yes, they were asked: "How much *more* (above the $50 per week) would you pay for this same treatment if it also prevented the weight gain you expected to occur from quitting smoking?" This question required reporting a dollar figure. Figure 1 indicates the questions along with the response.

Tobacco Dependence and Smoking History:

The Fagerstrom test for nicotine dependence, which is closely related to biochemical measures of intensity of smoking, was used to measure the severity of dependence on nicotine (36). Information on number of quit attempts and the number of cigarettes smoked per day was also collected.

Weight related measures:

Using measured body weight and height we calculate a body mass index (BMI) score for each respondent. Individuals with a BMI equal or greater than 30 were considered obese. We also considered whether the individual reported dieting in the past year as a measure of weight concern.

Alcohol use:

Respondents were asked: "How many drinks of alcohol do you have on a typical day when you are drinking?" Individuals were classified as heavy drinkers if they reported 3 or more drinks.

Demographic characteristics

Basic demographic information collected includes age, gender, race (White, Black or other), education (whether the individual had completed high school or not) and income (whether the individual reported a family income less than $40,000). We choose $40,000 because it was the bottom income quintile for this sample.

Statistical Analysis

Analyses were conducted in two parts. First, descriptive data on the study population and their responses to the two WTP questions were generated. We created two dichotomous outcome variables. The first dichotomous variable indicates whether the patient was willing to pay an additional $20 per week (for a total of $50 per week) for the treatment with increased effectiveness. The second dichotomous variable indicated whether the patient responded with a positive incremental willingness to pay to prevent weight gain. We calculated odds ratios to indicate the impact of patient characteristics on the probability that they reported a positive WTP to the two questions.

In the second set of analyses, we used logistic and Tobit regressions to control for relevant characteristics. Age, gender, race, education, income, Fagerstrom score, whether the individual was a heavy drinker, whether the respondent was obese and whether the respondent reported dieting in the past year were included as explanatory variables in both models. Because the willingness to pay for increased effectiveness was asked as a yes/no question we use a logistic regression to estimate the effect. In the case of the willingness to pay for attenuation of weight gain, we use a Tobit model to account for the large number of zeros in the data. Because the dependant variable was skewed, we estimate the log transformation of the variable.

Results

Of the 400 patients included in the study, 51 (13 percent) had missing values for the WTP for increased effectiveness question. Another 15 answered 'Don't know.' This left 334 responses for analyses. Of those that answered the effectiveness question, only 267 answered the WTP for reduced weight gain question (54 replied 'No' to the initial question and thus were never asked the follow-up question regarding weight gain, and 13 failed to respond).

Table 1, Column 1 indicates the characteristics of patients in the full population (N=334). The mean age was 47, about half were female (45 percent), 89 percent were White. Thirty nine percent of the sample had an education level of high school or less and 21 percent met our definition of low income. The average Fagerstrom score was 6.68 indicating heavy nicotine dependence. As expected, given the inclusion criteria, individuals in this study were mostly heavy smokers who had made numerous attempts to quit in the past. The participants had made, on average, 6 previous quit attempts and smoked an average of 28 cigarettes per day. Although those with current alcohol dependence were excluded from the study (indicated by DSMIVR criteria), 33 percent of the participants reported drinking 3 or more drinks on days they drank. Twenty-seven percent of the sample was obese, as indicated by a BMI greater than or equal to 30. Thirty-six percent reported dieting in the past year.

Characteristics of the study population reporting no willingness to pay and a willingness to pay of $20 extra per week (for a total of $50 a week) for a treatment with increased effectiveness are indicated in the second and third Columns of Table 1, respectively. We show odds ratio for the reported characteristics in column 4. Of those that responded, 84 percent reported being willing to pay for the treatment. Being low income was significantly associated with a lower willingness to pay – low income individuals were .49 times as likely than non low-income individuals to be willing to pay for more effective treatment ($p<.05$). Individuals in the 'other' race category were also statistically significantly less likely than whites to report a positive willingness to pay.

None of the smoking variables were significantly associated with willingness to pay for more effective treatments, but there was an effect of drinking, at the 10 percent significance level. Heavier drinkers were less likely to be willing to pay for more effective treatments (odds ratio=.600, $p<.10$). Neither weight nor being on a diet in the past year had a significant effect.

We can use the above information to infer some information on the value of a statistical quit to our sample. In doing so, we make conservative assumptions about the purchase decisions of our sample – that those that would not purchase the more effective treatment would not purchase even at lower prices (thus assigning them a zero value), and that those that would purchase at the increased price have a maximum reservation value of $20. We also assume a linear relationship between value and increased effectiveness. Since the subjects responding yes had a WTP of $20/week for an effectiveness of 25 percent, this implies $80/week for a 100 percent effective treatment. We then multiply $80*8 weeks*.84(the share of the sample that responded yes). This implies a value of $538 for a statistical quit. Since respondents were not given the option of reporting greater than a $20 incremental value, this is a lower bound on this value.

Table 2 summarizes the WTP responses for a treatment that is more effective and avoids weight gain. The first column reports full population characteristics (N=267). Columns 2 and 3 of Table 2 indicate the characteristics of individuals reporting a zero value and a positive value for the additional amount they would be willing to pay for a more effective treatment that was also not associated with weight gain. Of those that responded to this question, 66 percent reported a positive WTP. For this question, gender is significantly associated with reporting a positive WTP (odds ratio=2.871, $p<.01$). Being obese was significantly associated with reporting a positive WTP (odds ratio=3.239, $p<.01$), as was dieting (odds ratio=3.453, $p<.01$).

Table 3 reports the regression results. The adjusted odds ratios for reporting a positive WTP for a treatment with increased effectiveness gain are reported in Table 3.

Being low income is significantly and negatively associated with WTP for increased effectiveness. Heavy drinking is associated with being less likely to report a positive WTP for increased effectiveness.

More specific information about the magnitude of the individual's WTP was collected. Thirty-four percent of the sample that responded were unwilling to pay any additional amount for the treatment that eliminated weight gain. Seven percent of the sample was willing to pay an additional $0-$10 per week. Eleven and 14 percent were willing to pay an additional $11 to $20, and $21 to $30, respectively. Moreover, 32 percent reported being willing to pay an additional $50 per week or more for treatments with this improved side effect profile. Therefore, 58 percent of the responding sample was WTP more than $15 a week for a treatment with this additional benefit.

We used a Tobit model to predict whether personal characteristics impacted the magnitude of WTP for attenuation of weight gain (Table 4). We found that women had a higher WTP for a treatment that eliminated the weight gain normally associated with smoking (beta=1.052, $p<.01$). Because we took the log of the dependent variable, this coefficient can be interpreted as women reporting a WTP that is 105 percent greater than that of the men, on average. Being obese also significantly increased the WTP for prevention of weight gain (beta=1.129, $p<.01$) as does being on a diet in the prior year (beta=.669, $p<.01$).

Discussion

When private markets function well, it is reasonable to treat the price of a good as an accurate reflection of its value to consumers. In such settings, consumers reveal their preferences via their decision to buy a good at a given price. In the case of new products with no available market, determining the value to consumers is more difficult. In the case of new treatment development, for which start-up costs are high, this information is extremely valuable. In this research, we use one technique to examine the market for a potential new smoking cessation product.

We find that a substantial market could exist for smoking cessation products that have increased effectiveness. Among treatment seeking smokers with one prior quit attempt, they have a significant WTP for a new product. Moreover, we find that an important fraction of our sample population is willing to pay even more for a treatment that avoids weight gain. In the case of treatments that are not associated with weight gain, the WTP was quite large in magnitude. The majority of respondents were willing to pay an additional $10 per week, and a significant fraction were WTP in excess of an additional $50 per week.

We also examined WTP among subgroups. Like other willingness to pay studies, we found income to be a significant predictor for both outcomes. This was to be expected, as higher income individuals are likely to have more disposable income to spend on smoking cessation treatments. None of the smoking variables were significantly associated with willingness to pay for more effective treatments. This is most likely due to the selection criteria for the study; since only very dependent smokers who were highly motivated to quit were included in the study there was relatively little variation in the dependency measures. Considering WTP for the attenuation of weight gain, we found that overweight individuals were more likely to be willing to pay for a treatment not associated with weight gain. We considered whether the effect of weight and diet were different for men and women, by including an interaction term in the model. This interaction term was not significant, but due to the limited power to detect differences in this sample, we cannot make any definitive conclusions from this.

Information from WTP studies of smoking cessation can also be used to value a statistical quit. This represents a new method of evaluating a quit and contrasts to the method of calculating this value from data on the costs of smoking. We calculated the lower bound on the 'value of a quit' to be $538. Estimates in the literature of the costs of various smoking cessation therapies suggest the range of costs per additional quitter are from $240-$7300, with many being under $1000 (37). One recent study estimated the cost effectiveness of smoking cessation services under various insurance benefit designs. This study found that the costs per user who quit ranged from $928 to $1192 (depending

on benefit design) (38). While it is difficult to compare, since our estimates were a lower bound, this suggests the estimates of the value of a quit are in the same approximate range as the cost per quitter of certain interventions.

One can also calculate differences in this value for subpopulations. The 'value of a quit' by income category was $493 and $557 for the low and higher income categories, respectively. However, to appropriately calculate the value of a quit, one would need a measure of maximum WTP (which is not easily assessed with a binary format).

One important caveat is that our sample is not a national, randomly selected sample. There were numerous exclusion criteria, and all the subjects are current treatment seekers, and most have had numerous prior quit attempts. In addition, all subjects are from a single geographic area. Thus, these results should be viewed with some caution.

Another potential limitation of this study is the lack of power to detect effects in the regressions. For example, we calculate the power to detect an odds ratio of 2.00 for the obesity variable in the logistic regression to be only 39 percent. For an odds ratio of 3.00 this increases to 71 percent, less than the traditional required 80 percent. In the case of the tobit regression, our sample size achieves a 34 percent power to detect an R-squared of 0.01. Thus, for the explanatory variables that were insignificant, the results are not conclusive. We therefore emphasize the effects that are significant, rather than the insignificance of the variables that were not significant.

In general, WTP is widely accepted in economics as a method to elicit preferences from consumers. Nevertheless, circumstances under which discrepancies between expressed and actual WTP might appear. This discrepancy has been called "hypothetical bias" and has generated a full line of literature in the field of economics and statistics (39). For example, discrepancies between expressed and actual WTP may arise when agents can benefit from playing strategically, i.e., when agents perceive that the results of the WTP study may really

influence the final price for a good they intend to buy (40). However, others have shown that the discrepancy between actual and expressed WTP diminishes with an adequate design for the WTP study (41). Moreover, some researchers claim that WTP values are more consistent with consumers' true preferences than are "willingness to accept" values (41). Although the hypothetical bias constitutes a potential limitation of our paper, we assume that, given the consistency of the design of our study with other published WTP studies, the magnitude of the hypothetical bias in this study is not significantly large.

In future research, we plan to assess the willingness to pay for these smoking cessation treatments in a nationally representative sample of all smokers. This would allow us to assess the market not only for individuals already seeking treatment, but also for those individuals who have not made quit attempts to date, perhaps due to the belief that the current treatments are not effective enough, or to their concern over weight gain. Additional data would also allow us to make more conclusive statements about the characteristics of smokers that affect WTP. For example, it would be interesting to assess the correlation of dependence measures with WTP, among a group with more variation in their dependence. Data from the general population of smokers would also allow more representative statements regarding the value of a quit. Since some interventions are specifically targeted to certain populations this would be important information for decision makers.

Conclusion

Our results confirm that there would be a significant market for certain new smoking cessation treatments. The majority of respondents were WTP extra money for a more effective treatment. Sixty-six percent of the sample was WTP even more if that treatment was not associated with increased weight gain. The median incremental WTP for attenuation of weight gain was quite high, $20 per week for the duration of the treatment, with 32 percent WTP $40 or more per week. Even with a relatively small sample size, the correlation with demographic factors suggests these responses are valid; employed individuals are more likely to report higher willingness to pay, and women and the obese are willing to pay more for the attenuation of weight gain.

We also conclude that WTP surveys may be an appropriate vehicle for further research on the value of new smoking cessation treatments. Not only did respondents answer the questions, they provided reasonable answers, as indicated by the construct validity. Thus, we suggest that WTP could be fruitfully used to address issues in tobacco cessation studies.

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Table 1: Willingness to pay for smoking cessation treatments with increased effectiveness

	Means (standard deviation)			Unadjusted odds ratio (95% CI)
	Full Sample	Not willing to pay (WTP=0)[b] (16 %)	Willing to pay (WTP>0)[b] (84 %)	Full Sample
Demographics				
Age (mean years)	46.5 (11.0)	44.1 (13.5)	46.4 (10.5)	1.019 (.993-1.047)
Gender (female %)	45.4	54.7	43.7	.643 (.356-1.160)
Race				
White (%)	88.6	79.6	90.4	-
Black (%)	6.0	9.3	5.5	.510 (.121-.954)
Other (%)	5.4	11.1	4.3	.340** (.121-.954)
Education (high school or less) (%)	38.8	36.0	39.3	1.149 (.614-2.151)
Low income (%)	21.2	32.6	19.2	.490** (.246-.975)
Smoking and Drinking History				
Fagerstrom	6.68 (2.25)	6.20 (2.31)	6.76 (2.24)	1.116 (.979-1.272)
Number of quit attempts (SH17) (%)	6.29	6.16	6.31	1.001 (.973-1.031)
Number of cigarettes per day (SH5) (%)	27.9	26.2	28.24	1.019 (.988-1.051)
Drinks 3 or more drinks when drinking (%)	33.1	43.1	31.3	.600 * (.326-1.104)
Weight variables				
Obese (BMI>=30) (%)	27.4	22.2	28.4	1.389 (.695-2.777)
Dieting (%)	35.9	32.7	36.5	1.185 (.631-2.225)
N	334	54	280	

*=p<.10; **p<.05; ***p<.01

[b] Sample sizes vary due to missing information

Table 2: Willingness to pay for smoking cessation treatments with increased effectiveness and associated with no weight gain

	Means (standard deviation)			Unadjusted Odds ratio (95% CI)
	Full Sample	Not willing to pay (WTP=0)[b] (34 %)	Willing to pay (WTP>0)[b] (66 %)	Full Sample
Demographics				
Age (mean years)	46.6 (10.55)	47.1 (11.38)	46.3 (10.10)	.993 (.970-1.017)
Gender (female %)	43.2	27.2	51.7	2.871*** (1.661-4.963)
Race				
White (%)	90.6	93.5	89.1	-
Black (%)	5.2	4.3	5.7	1.378 (.420-4.526)
Other (%)	4.1	2.2	5.1	2.481 (.524-11.742)
Education (high school or less) (%)	38.5	40.9	37.3	.858 (.507-1.454)
Low income (%)	19.0	17.0	20.0	1.217 (.620-2.387)
Smoking and Drinking History				
Fagerstrom	6.77 (2.24)	6.82 (2.15)	6.74 (2.29)	.984 (.879-1.103)
Number of quit attempts (SH17) (%)	6.37	6.66	6.22	.997 (.974-1.020)
Number of cigarettes per day (SH5) (%)	28.24	27.86	28.44	1.004 (.981-1.028)
Drinks 3 or more drinks when drinking (%)	30.9	37.4	27.5	.635* (.370-1.092)
Weight variables				
Obese (BMI>=30) (%)	27.9	14.3	35.1	3.239*** (1.666-6.296)
Dieting (%)	36.8			3.453*** (1.878-6.352)
N	267	92	175	

*=p<.10; **p<.05; ***p<.01

b Sample sizes vary due to missing information

Table 3: Logistic Regression Results

	(1)
	Willing to pay an additional $20 a week for a smoking cessation treatment with increased effectiveness
Age over 50	1.048 (.151-2.174)
Female	.646 (.307-1.361)
Nonwhite	.869 (.292-2.583)
HS or less	1.327 (.643-2.736)
Low income	.512* (.232-1.131)
Fagerstrom	1.107 (.954-1.284)
Drinks	.494** (.245-.993)
Obese	1.065 (.477-2.376)
Diet in past year	1.086 (.509-2.316)
N	289

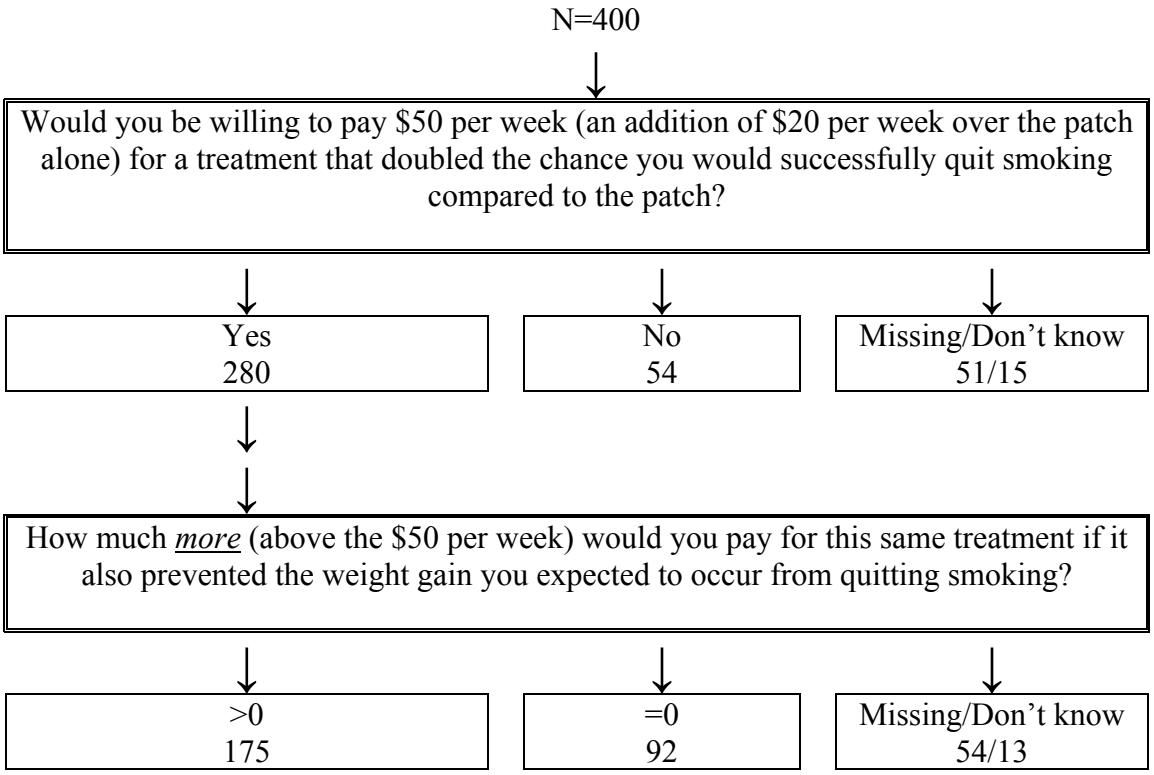
*=p<.10; **p<.05; ***p<.01

Table 4: Regression Results

	(1)
	Ln (Amount willing to pay for a smoking cessation treatment with increased effectiveness and no weight gain)
Age	-.057 (.305)
Female	1.052*** (.324)
Nonwhite	.407 (.532)
HS or less	-.317 (.306)
Low income	-.048 (.402)
Fagerstrom	-.026 (.066)
Drinks	-.438 (.333)
Obese	1.129*** (.337)
Diet in past year	.669** (.324)
R2	.0466
N	232

*=p<.10; **p<.05; ***p<.01

Figure 1: Survey design and results



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