Do Insurance Premium Surcharges for Tobacco Use Encourage Smoking Cessation?

DO INSURANCE PREMIUM SURCHARGES FOR TOBACCO USE ENCOURAGE SMOKING CESSATION?

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ABSTRACT

As of 2014, the Affordable Care Act allows Marketplace plans to impose a surcharge of up to 50% on tobacco users' insurance premiums. The surcharge is intended to account for tobacco users' excess health care costs and encourage smoking cessation. Using data from the 2011 and 2015 current population, we use rates of smoking cessation and interest in cessation before and after implementation of the Affordable Care Act, and conditional on coverage under a Marketplace insurance plan to estimate the impact of the tobacco surcharge.

BACKGROUND: THE AFFORDABLE CARE ACT (ACA)

- "Make affordable health insurance available to more Americans"
- Insurance premiums are determined based on:
  - Geographic region
  - Family size
  - Age
  - Tobacco use
- Tobacco users can be charged up to 50% more for health insurance premiums compared to nonusers
  - Some state's have enacted a more restrictive maximum (< 50%) or abolished the surcharge completely
- Tobacco use is self-reported
  - The penalty for misreporting is retroactive payment of surcharges

TOBACCO SURCHARGE

Motivation

1. Offset excess health care costs associated with tobacco use
2. Provide a financial incentive for smoking cessation

Potential Concerns

1. Tobacco users opt out of coverage
2. Tobacco users sort into cheaper coverage options to offset higher premiums
3. Individuals misreport their tobacco use to avoid surcharges

FINANCIAL INCENTIVES FOR SMOKING CESSATION

CARROTS VS. STICKS

Carrots

- Rewards
- Positive reinforcement
- Encourages individuals to modify their behavior

Sticks

- Penalties
- Negative reinforcement
- Penalizes individuals who do not modify their behavior
- Leverages loss aversion

A RANDOMIZED, CONTROLLED TRIAL OF FINANCIAL INCENTIVES FOR SMOKING CESSATION (2009)

Methods

- 878 participants
- $100 for completion of smoking-cessation program
- $250 for cessation of smoking within 6 months after study enrollment
- $400 for abstinence for and additional 6 months after the initial cessation
- Reported cessation confirmed by a biochemical test

Key findings

- Higher cessation rates among incentive group at 9-12 months and 15-18 months after enrollment
- Higher program enrollment and completion rates among incentive group

RANDOMIZED TRIAL OF FOUR FINANCIAL-INCENTIVE PROGRAMS FOR SMOKING CESSATION (2015)

Reward-based group

- $800 for smoking cessation
- *90%* acceptance rate

Deposit-based group

- $150 refundable deposit plus $650 for smoking cessation
- *14%* acceptance rate

Key findings

- Higher rates of sustained abstinence from smoking through 6 months among incentive groups
- Reward-based programs were associated with higher sustained abstinence rates than deposit-based programs
- No statistical difference in cessation rates between individual-oriented and group-oriented programs

EVIDENCE SUGGESTS THAT THE ACA'S TOBACCO SURCHARGES REDUCED INSURANCE TAKE-UP AND DID NOT INCREASE SMOKING CESSATION (2016)

Smoking Cessation	Low surcharge		Medium surcharge		High surcharge	
	change	95% CI	change	95% CI	change	95% CI
Full sample	**-5.6	(-10.9, -0.3)	-1.6	(-6.8, 3.7)	0	(-6.8, 6.8)
Younger than 40	-5.4	(-16.7, 5.9)	0.2	(-10.6, 11.0)	-1.2	(-12.2, 9.8)
40 or older	***-5.2	(-8.1, -2.4)	*-2.6	(-5.5, 0.4)	-0.2	(-6.5, 6.0)

Source: Author's analysis of data for 2011-2014 from the Behavioral Risk Factor Surveillance System

"Changes" are the differential in percentage-point increases in smoking cessation exhibited by smokers facing each of the surcharge levels, compared to increases for smokers in the zero-surcharge group.

*p < 0.10, **p < 0.05, ***p < 0.01

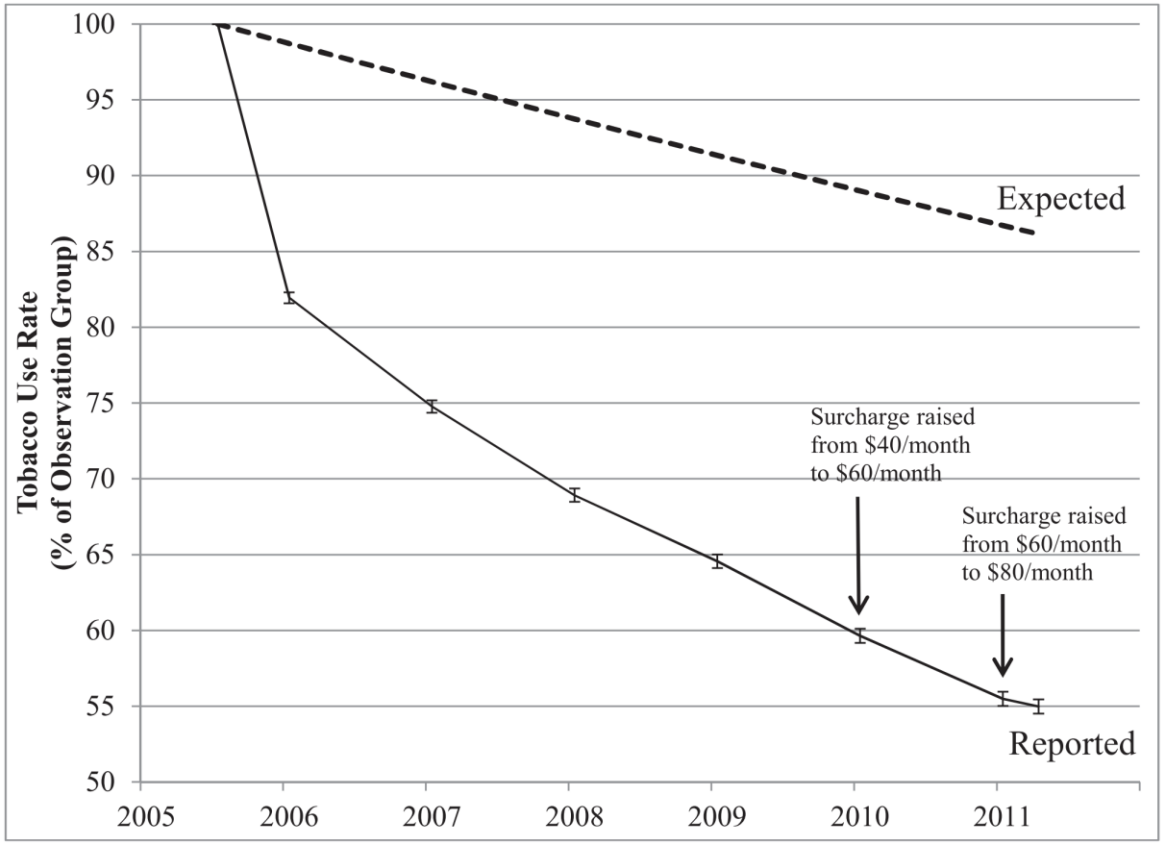
THE POTENTIAL AND PERIL OF HEALTH INSURANCE TOBACCO SURCHARGE PROGRAMS: EVIDENCE FROM GEORGIA'S STATE EMPLOYEES' HEALTH BENEFIT PLAN (2014)

Methods

- Tracked enrollees reported tobacco use from 2005 through 2011 and compared implied cessation rates to the national expected annual 2.6% cessation rate
- Tobacco users faced a $40/month surcharge on health insurance premiums
  - Raised to $60 in 2010, and $80 in 2011

Key findings

- Reported cessation rates between 2x and 3x the national cessation rate
- By 2011 only 55% of enrollees originally reporting tobacco use were still reporting use



DATA: THE CURRENT POPULATION SURVEY

SUPPLEMENTAL FILES

Tobacco supplement

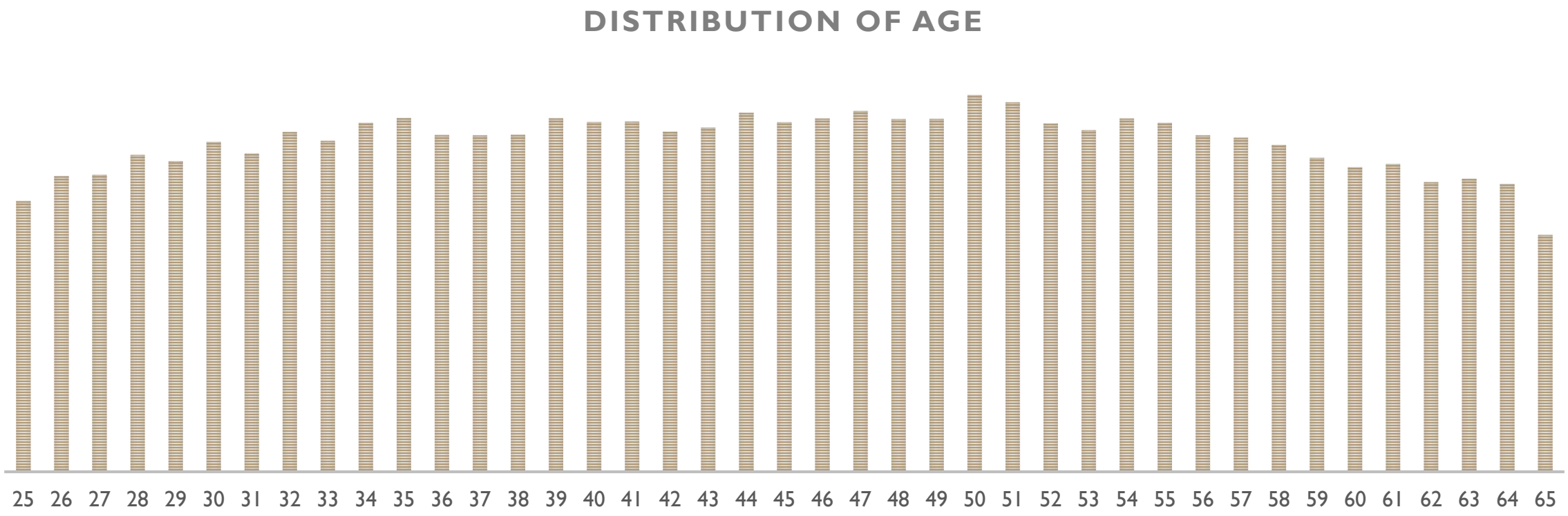
- Every day smoker, some days smoker, nonsmoker, or former smoker
- Frequency of tobacco use
- Attempts to quit smoking
- Interest in Quitting

Health supplement

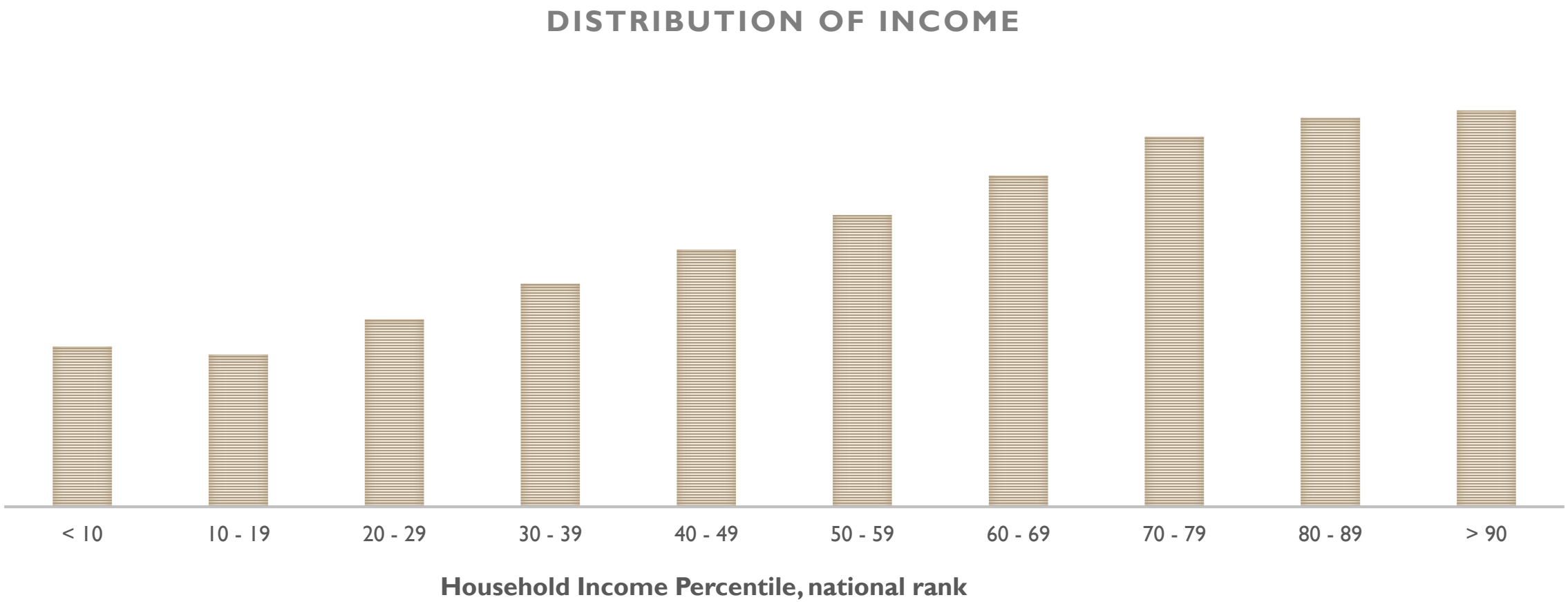
- Health insurance coverage status
- Total family payment for health insurance premiums
- Type of coverage
- Plan type

	January	February	March	April	May
2011	Tobbaco Supplement	→	Health Supplement	←	Tobacco Supplement
2015	Tobacco Supplement	→	Health Supplement	←	Tobacco Supplement

SAMPLE POPULATION CHARACTERISTICS



SAMPLE POPULATION CHARACTERISTICS

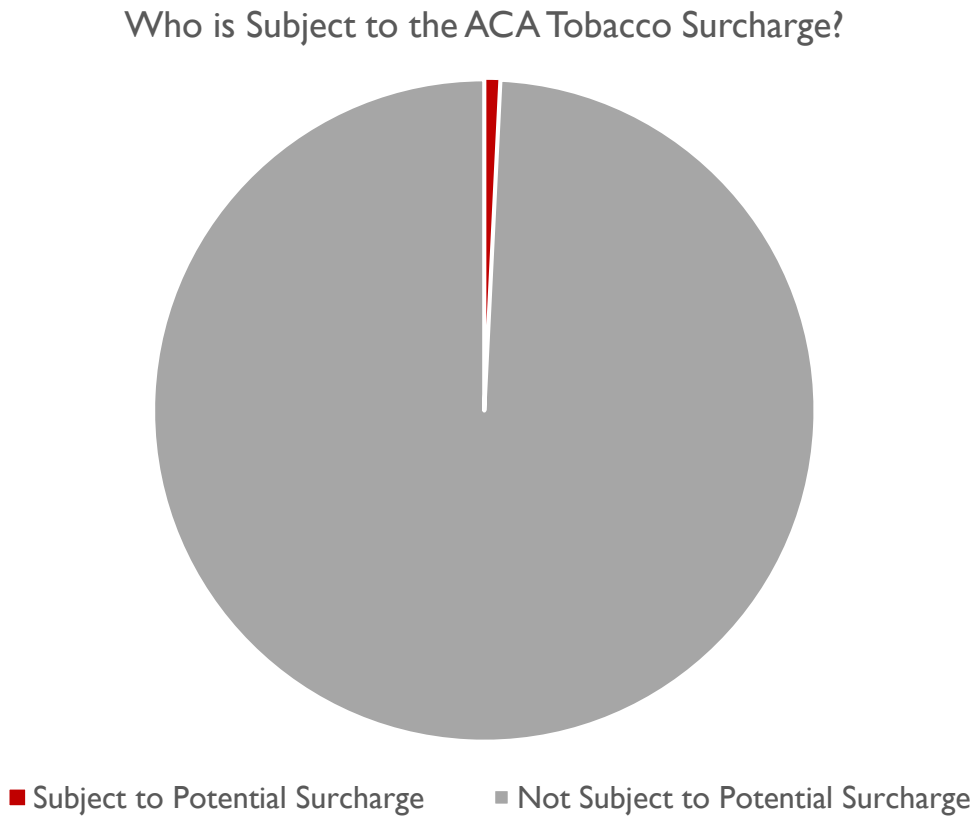


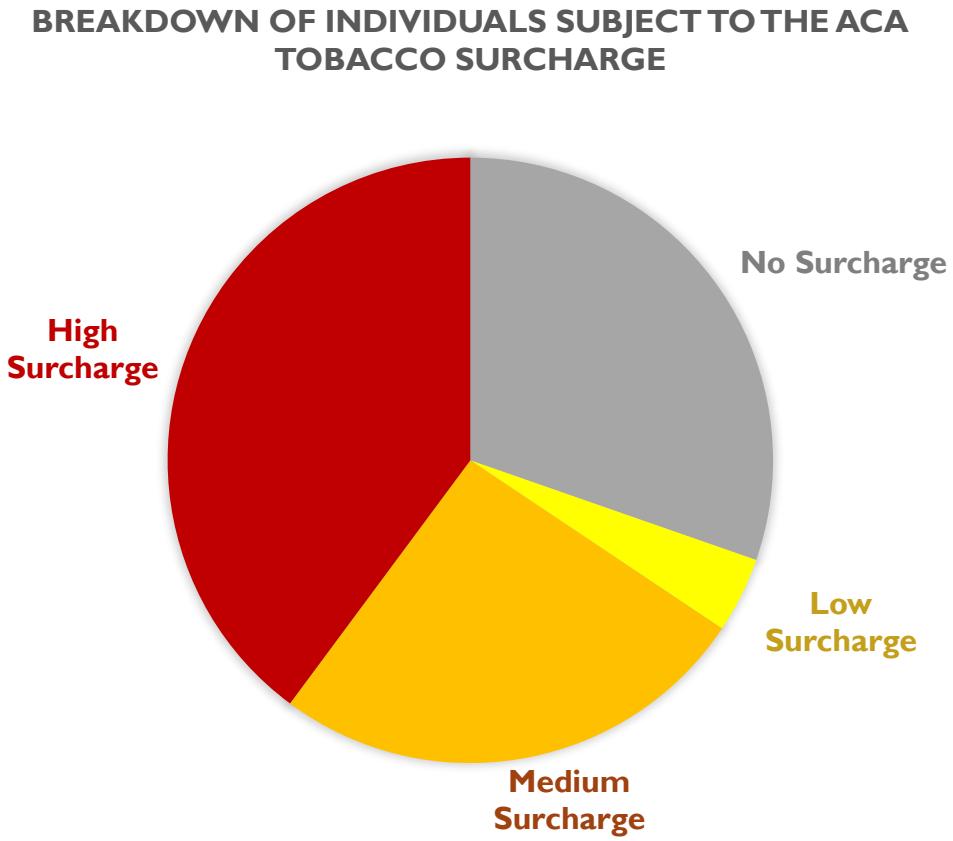
TOBACCO USE

Do you smoke?	
Never Smoked	68.0%
Every Day	12.2%
Some Days	3.1%
Former Smoker	16.4%
Sample Size	98,879

Characteristics of Every Day Smokers	
Average Age	44.98
Average Income Percentile (1 - 10)	5.19
Married	47.9%
Male	52.7%
Sample Size	12,046

TOBACCO SURCHARGE CHARACTERISTICS





RESULTS

Regression on Interest In Quitting

VARIABLE	(i)	(ii)
Age	0.006	6.88e-05
	(0.021)	(0.004)
Income Percentile	-0.031	0.057***
	(0.088)	(0.021)
Married	0.186	0.222**
	(0.461)	(0.103)
Female	0.032	0.282***
	(0.426)	(0.095)
Employed	-0.532	0.074
	(0.471)	(0.109)
High School Diploma	0.857	-0.055
	(0.628)	(0.135)
College Degree	0.233	0.309**
	(0.499)	(0.129)
Graduate Degree	2.241	0.342
	(1.519)	(0.353)
2015	-1.944	0.160
	(1.246)	(0.270)
Cost of a Pack of Cigarettes	-0.0512	0.005
	(0.040)	(0.022)
Tobacco Surcharge	0.102	-0.002
	(0.067)	(0.014)
Observations	302	4,829

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Regression on the Change in Cigarettes Per Day from One Year Prior

VARIABLE	(i)	(ii)
Age	0.001	0.001
	(0.003)	(0.0009)
Income Percentile	-0.017	0.003
	(0.013)	(0.004)
Married	-0.114**	0.027
	(0.068)	(0.022)
Female	-0.040	0.041**
	(0.063)	(0.019)
Employed	0.084	0.069***
	(0.076)	(0.024)
High School Diploma	-0.121	0.023
	(0.128)	(0.035)
College Degree	-0.072	0.010
	(0.072)	(0.023)
Graduate Degree	0.023	0.001
	(0.010)	(0.031)
2015	(1.662)	0.009
	0.055	(0.056)
Low Tobacco Surcharge	-0.510	-0.372
	(1.773)	(0.287)
Medium Tobacco Surcharge	-0.143	-0.435**
	(1.662)	(0.245)
High Tobacco Surcharge	-0.040	-0.237
	(1.657)	(0.238)
Observations	2,736	27,486

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Regression on the Probability of being an Every Day Smoker

VARIABLE	(i)	(ii)
Age	-0.0004	-0.0004***
	(0.0003)	(0.0001)
Income Percentile	-0.001	-0.010***
	(0.002)	(0.0006)
Married	-0.053***	-0.059***
	(0.008)	(0.003)
Female	-0.023***	-0.029***
	(0.008)	(0.002)
Employed	-0.029***	-0.034***
	(0.010)	(0.003)
High School Diploma	-0.044***	-0.051***
	(0.0164)	(0.004)
College Degree	-0.070***	-0.093***
	(0.00887)	(0.003)
Graduate Degree	-0.037***	-0.032***
	(0.013)	(0.004)
2015	-0.002	-0.018**
	(0.025)	(0.007)
Tobacco Surcharge	-0.000989	0.0003
	(0.001)	(0.0004)
Observations	5,929	71,732

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

CONCLUSIONS

- Analysis shows no results to support the hypothesis that insurance premium surcharges encourage smoking cessation

- Factors that do affect the decision to use tobacco:
  - Married individuals show higher interest in quitting and lower probability of being an every day smoker compared to unmarried individuals
  - Women are less likely to be every day smokers than men
  - Employed individuals are less likely to be every day smokers than unemployed individuals
  - Educational attainment is linked to higher interest in in quitting and lower probability of being an every day smoker

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