



**US FOOD AND DRUG ADMINISTRATION
Tobacco Products Scientific Advisory Committee**

**Swedish Match North America
Tobacco Briefing Materials**

MR0000020-MR0000022

MR0000024-MR0000025

MR0000027-MR0000029

General Snus Products

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**ADVISORY COMMITTEE BRIEFING MATERIALS:
AVAILABLE FOR PUBLIC RELEASE**

Swedish Match North America (“Swedish Match”) submitted an Amendment to its Modified Risk Tobacco Product (“MRTP”) Application for eight (8) General Snus smokeless tobacco products¹ to the U.S. Food and Drug Administration’s (“FDA’s”) Center for Tobacco Products (“CTP”) on September 18, 2018. In the MRTP Amendment, Swedish Match proposed to include the statement “Using this product instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis” in its marketing communications. Its communications will continue to bear the warning statements currently required on advertising for smokeless tobacco products, including the statements “WARNING: This product can cause mouth cancer” and “WARNING: This product is not a safe alternative to cigarettes.” Notably, Swedish Match does not seek to modify the label for its General Snus products in any way. Rather, it seeks authorization to include the modified risk statement only in its marketing and advertising materials.

1. FDA Review of Data Supporting Health Benefits of Switching From Cigarettes to General Snus

The modified risk claim sought in the MRTP Amendment is supported by extensive epidemiology, clinical, analytic, mechanistic and other data regarding the absolute and relative (to other tobacco products) health risks of General Snus products. Swedish Match submitted these data to CTP both in its original MRTP Application and in a Premarket Tobacco Product Application (“PMTA”) for the General Snus products. These data underwent extensive technical review by FDA experts in twelve (12) scientific disciplines, including behavioral pharmacology, chemistry, clinical pharmacology, engineering, environmental science, epidemiology, medical, microbiology, oncology, social science, statistics, and toxicology. Following this review, CTP approved the PMTA. The Technical Product Lead (“TPL”) Review Memorandum issued with the approval concluded that the “application contains sufficient evidence to demonstrate that the product is appropriate for the protection of public health.”² CTP therefore issued a Marketing Order for the General Snus products on November 10, 2015.

The PMTA TPL Review Memorandum in support of the Marketing Order, along with prior determinations of the Tobacco Product Safety Advisory Committee (“TPSAC”), supports each of the following conclusions:³

- General Snus is made in accordance with Swedish Match’s proprietary GOTHIA TEK, “a voluntary, proprietary standard [that utilizes] acceptable manufacturing processes as

¹ The General Snus Products subject to the amended MRTP Application are General Loose (loose snus), General Dry Mint Portion Original Mini (portioned snus), General Original Large (portioned snus), General Classic Blend Portion White Large – 12 ct (portioned snus), General Mint Portion White Large (portioned snus), General Nordic Mint Portion White Large – 12 ct (portioned snus), General Portion White Large (portioned snus), and General Wintergreen Portion White Large (portioned snus)

² FDA, PMTA Technical Project Lead Review Memorandum for PM0000010-PM0000017 (Nov. 2, 2015) at 5, available at <https://www.fda.gov/downloads/tobaccoproducts/labeling/tobaccoproductreviewevaluation/ucm472123.pdf> [hereinafter “TPL Review Memorandum”].

³ *Id.*

confirmed by both application review and on-site inspections... The constituent standards set maximum levels that must not be exceeded for selected constituents in the finished products.”⁴

- General Snus products contain lower levels of harmful and potentially harmful constituents (“HPHCs”) than other smokeless tobacco products:
 - “Significantly lower levels of NNN [N-nitrosornicotine] and NNK [nicotine-derived nitrosamineketone] compared to over 97% of the ST [smokeless tobacco] products currently on the US market... NNN and NNK are among the most carcinogenic constituents in tobacco products.”⁵
 - “Levels of other HPHCs including As [arsenic], Cd [cadmium], acetaldehyde, crotonaldehyde, formaldehyde and BaP [benzo(a)pyrene] are similar to or lower than levels of [smokeless tobacco] products currently on the US market.”⁶
- When used instead of cigarettes on the U.S. market, these products offer potential for reductions in various disease endpoints, specifically those endpoints listed in the MRTP claim: mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis.
- There exists a low likelihood of nonuser initiation of the General Snus products, along with low likelihood of decreased and/or delayed cessation.

2. Perceptions and Behavioral Intentions Study for General Snus

In light of FDA’s recognition of the individual and public health benefits associated with the use of General Snus instead of cigarettes, the issue presently under consideration by TPSAC in connection with this MRTP Amendment is the means for communicating this risk reduction message in a manner that encourages current smokers to switch from cigarettes to the lower risk General Snus products, without unduly incentivizing current non-tobacco users to initiate tobacco use. In order to address this question, Swedish Match, following extensive consultation with CTP and its Office of Science (“OS”), developed and conducted a new consumer perception study entitled “Perceptions and Behavioral Intentions Study for General Snus” (the “Perceptions and Behavioral Intentions Study” or the “Study”). The Study documents were included in the MRTP Amendment. In order to facilitate TPSAC’s considerations, we have included a Study synopsis⁷ and supporting information about the Study⁸ as part of the document.

⁴ *Id.* at 36-37. *See also* Appendix 1.

⁵ TPL Review Memorandum at 6.

⁶ *Id.* at 37.

⁷ *See* Appendix 2.

⁸ *See* Appendix 3.

The Perceptions and Behavioral Intentions Study employed a between-groups test versus control methodology to determine how three potential modified risk claims⁹ impacted various cohorts of adult consumers' perceptions of health risks of using General Snus and their behavioral intentions regarding tobacco. The study enrolled 10,532 adult subjects divided into six (6) cohorts including never- users of tobacco products from legal age to 24 years ("young adult"), never-users of tobacco products more than 24 years of age ("adult"), young adult current cigarette smokers, adult cigarette smokers, former cigarette smokers, and current smokeless tobacco users. Understanding FDA concern over unintended consequences, the study over-sampled young adults among smokers and never users of tobacco. This age group comprised 36.8% of the total study population. Each cohort was divided into four (4) cells of 485 subjects each. Each cell included three (3) test groups each exposed to a video containing one of the three modified risk claims and one (1) control group that was not exposed to any modified risk claim.¹⁰ The claims were randomized with respect to the FDA-required warning labels¹¹ and the mint and wintergreen flavors that comprise approximately 70% of U.S. sales.¹²

All three of the claims tested were designed to facilitate reading comprehension on the Flesch-Kincaid readability scale.¹³ To that end, the claims performed well in terms of comprehension and perceptions of absolute and relative risks of General Snus, and notably did not increase the likelihood of non-tobacco users initiating use of the product. However, Claim 1 (*Using General Snus instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis.*), which specified the health conditions associated with smoking that are mitigated by switching to General Snus, had the greatest impact on behavioral intentions among current smokers. Indeed, current cigarette smokers aged 24 years and older who were exposed to Claim 1 displaced a statistically significant increase in interest in purchasing General Snus, compared to those exposed to the control.

The study assessed the subjects' comprehension of the modified risk claims, perception of absolute and relative risk, and intention to switch to the General Snus products. In summary, with respect to Claim 1, Perceptions and Behavioral Intentions Study demonstrated that:

- *Comprehension and Believability:* The utilization of a test versus control study design ensured a control group of participants who did not see the modified risk information, in order to allow comprehension and believability scores to be

⁹ The three claims tested were: (1) Using General Snus instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis; (2) Using General Snus instead of cigarettes would significantly reduce harm and the risk of certain tobacco-related diseases to individual tobacco users; and (3) No tobacco is totally safe, but using General Snus instead of cigarettes puts you at a lower risk of chronic lung disease and other tobacco-related ailments.

¹⁰ See Appendix 3 at 36.

¹¹ The four warning statements, taken directly from government-mandated warnings, are: (1) "WARNING: This product is not a safe alternative to cigarettes"; (2) "WARNING: This product can cause mouth cancer;" (3) "WARNING: This product can cause gum disease and tooth loss"; and (4) "WARNING: Smokeless tobacco is addictive."

¹² See Appendix 3 at 36.

¹³ See Appendix 2 at 10.

compared across groups (i.e., to assess whether participants answering correctly did so because they understood the modified risk information, as opposed to answering correctly without having viewed the information). Subjects exposed to the modified risk claim (test group) displayed greater understanding of the claim versus control. Specifically, the test group was able to identify the key message conveyed by the claim, while the control group was unable to do so. The test group also displayed greater recognition that one must switch to General Snus and cannot continue to smoke any cigarettes in order to obtain the health benefits versus control.

- *Absolute and Relative Risk Perception:* Subjects exposed to the modified risk claim displayed greater understanding of the health benefits of General Snus compared to cigarettes while recognizing that General Snus is not risk free, versus control. In totality, all respondents understood that General Snus is not risk free.
- *Switching and Intention:* Non-users of tobacco exposed to the modified risk claim were no more likely than those exposed to the control to express interest in trying General Snus. In totality, non-users of tobacco expressed virtually zero interest in trying General Snus. Smokers over the age of 24 in the test group were statistically significantly more likely to express interest in trying General Snus versus control. Young adult smokers in the test group were directionally more likely to express interest in trying General Snus versus control.

Based on these results, Swedish Match has proposed to include the modified risk claim, “Using General Snus instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis.” in its marketing and promotional materials. The results of the Perception and Behavioral Intention Study for General Snus related to Claim 1 are summarized below. The supporting data are presented in greater detail in Appendix 2.

Comprehension and Believability:

Subjects’ comprehension of the MRTP claims was assessed based on responses to five (5) items related to the claims.¹⁴ In all test groups, subjects exposed to the MRTP claims responded correctly more often than those in the control group. A correct response means the respondent could successfully infer the information presented by the claim. For those exposed to Claim 1, 83.2% of young adult and 81.7% of adult current smokers responded correctly to questions about the modified risk claim compared to 16.1% and 15.2%, respectively, of the control groups.¹⁵ Adult and young adult non-tobacco users, former cigarette smokers, and current smokeless tobacco users were also statistically significantly more likely to comprehend

¹⁴ See Appendix 3 at 38.

¹⁵ See Appendix 2 at 11 (Table 2).

Claim 1 as compared to control.¹⁶ Subjects exposed to Claim 1 were significantly more likely to view the Claim as believable as compared to control.¹⁷

In addition, more smokers exposed to the Claim 1 modified risk statement than to the control responded that one must not smoke any cigarettes to achieve the lower disease risk from General Snus. Thus, 56.2% of young adult smokers and 43.7% of adult smokers correctly responded that one could smoke no (0) cigarettes to obtain the benefit compared to 45.0% and 33.9% of the controls for each age group respectively.¹⁸ The answer “don’t know” was second most frequent, with 19.0% of young adult smokers and 29.9% of adult smokers choosing “don’t know.” Control results were 17.9% and 29.9% respectively.

Absolute Risk Perception:

Subjects’ perception of the absolute risk from use of only General Snus (in lieu of any other tobacco or nicotine product) was assessed using a single choice five (5) point Likert scale from 1 (very low) to 5 (very high) for *each* of eight (8) health conditions: chronic bronchitis, emphysema, lung cancer, gum disease, heart disease, mouth cancer, stroke, and serious health problems. Subjects across all cohorts exposed to Claim 1 were statistically significantly more likely to perceive lower absolute risk from use of only General Snus as compared to the control across all health conditions.¹⁹ Notably, none of the test cohorts perceived General Snus to be risk-free; in other words, when assessing absolute risk all cohorts assigned meaningful risk of the various health conditions.²⁰

Relative Risk Perception:

Perceptions of relative risk of daily use of General Snus compared to other risk exposures were assessed for each cohort on a single choice five (5) point Likert scale from 1 (much lower chance) to 5 (much higher chance) for each of eight (8) health conditions. The risk exposures assessed for each health condition included daily use of General Snus compared to daily use of other tobacco or nicotine products, aids to stop smoking, both cigarettes and General Snus, never having used any tobacco or nicotine product, and quitting all tobacco and nicotine products compared to quitting all tobacco and nicotine products except General Snus. The direct comparison of daily use of only General Snus versus the daily use of only cigarettes is provided in Appendix 2.²¹

¹⁶ *See id.*

¹⁷ *See id.* at 33 (Table 7).

¹⁸ *See id.* at 12 (Table 3).

¹⁹ *See id.* at 13 (Table 4).

²⁰ *See id.*

²¹ *See id.* at 19 (Table 5).

In summary, all study cohorts exposed to Claim 1 perceived that the use of General Snus instead of cigarettes resulted in a lower relative risk of all health conditions tested, compared to control.²²

The results were similar for the comparison of daily use of General Snus alone to daily use of both General Snus and cigarettes. A statistically significant proportion of respondents exposed to Claim 1 across all cohorts perceived that people who used only General Snus had a lower or much lower relative risk of the health conditions compared to those who used both General Snus and cigarettes.²³

Switching and Intention:

Likelihood to purchase General Snus was assessed using an eleven (11) point scale from 0 (no chance) to 10 (certain or practically certain) to calculate a mean score reflecting the average probability that a population will purchase General Snus in the future.

Among non-tobacco users, interest in purchasing General Snus was low and non-tobacco users exposed to Claim 1 were no more likely to indicate interest in purchasing General Snus than non-tobacco users exposed to the control. Young adult non-users (legal age to 24 years) exposed to Claim 1 had a mean score of .34 compared to .37 for the control. Adult non-users (older than 24 years) exposed to Claim 1 had a mean score of .23 compared to .29 for the control.²⁴

However, current cigarette smokers older than 24 years exposed to Claim 1 (mean score of 2.04) reported statistically significantly greater interest in purchasing General Snus than did the control (mean score 1.49).²⁵ Young adult smokers exposed to Claim 1 (mean score 2.19) reported greater interest in purchasing General Snus as compared to the control (mean score 1.85), as did smokeless tobacco users and former cigarette smokers.²⁶

The data from the consumer perception study demonstrate that those exposed to Claim 1 understood the relative health benefits of General Snus as compared to cigarettes while recognizing that there are absolute health risks associated with use of General Snus. Further, adult and young adult smokers exposed to Claim 1 were more likely to express interest in trying General Snus than those exposed to the control, and results were statistically significant for smokers over the age of 24. Crucially, however, tobacco non-users exposed to Claim 1 were no more likely than those exposed to control to express interest in trying General Snus. Based on these data, Swedish Match has proposed to use the claim in its marketing communications.

²² See *id.*

²³ See *id.* at 26 (Table 6).

²⁴ See *id.* at 10 (Table 1).

²⁵ See *id.* at 34 (Table 8).

²⁶ See *id.*.

* * * *

Swedish Match has engaged extensively with FDA over the past four and a half years to develop marketing claims for its General Snus products that accurately and meaningfully convey both the risks of using cigarettes and smokeless tobacco products and the health benefits that can result from switching to snus. Swedish Match's development of these claims, including the proposed claim before TPSAC in the MRTP Amendment, follows FDA's recognition that using General Snus instead of combusted tobacco products offers lower risk of a variety of tobacco related disease outcomes and that there is sufficient evidence to demonstrate that the marketing of General Snus is appropriate for the protection of the public health.²⁷

To determine how best to communicate this information in a manner that encourages current smokers to switch from cigarettes to the lower risk General Snus products, without also incentivizing non-tobacco users to initiate tobacco use, Swedish Match drafted the proposed modified risk claim sought in this MRTP Amendment to facilitate comprehension and to identify specific health outcomes associated with the use of General Snus as compared to cigarettes. Swedish Match tested this claim in its Perception and Behavioral Intentions Study for General Snus. The results of this study demonstrate that the statement "*Using this product instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis.*" performed well in terms of comprehension and perceptions of absolute and relative risks of General Snus for all cohorts tested and had the greatest impact on behavioral intentions among current smokers. Moreover, the claim was not associated with any statistically significant increase in the likelihood of initiation by non-users of tobacco. Thus, the claim currently proposed in MRTP Application, as amended by Swedish Match, satisfies the statutory criteria for issuing an MRTP Order set forth in Section 911 of the Food Drug and Cosmetic Act ("FDCA").²⁸ Swedish Match therefore urges TPSAC to recommend that FDA grant the requested MRTP Order for the Swedish Match's General Snus products, thereby supporting Congress' intent and FDA's public health mission of ensuring that consumers are better informed with respect to the relative risks of various tobacco products.

²⁷ See TPL Review Memorandum at 5-7, 25, 33, 36-37.

²⁸ See 21 U.S.C. § 387k(b)(2) (FDCA Section 911). Section 911 of the FDCA requires that the product actually used by consumers, will "(A) significantly reduce harm and the risk of tobacco-related disease to individual tobacco users and (B) benefit the health of the population as a whole taking into account both users of tobacco products and persons who do not currently use tobacco products."

APPENDIX 1

Appendix 1. Gothiatek® limits for constituents in snus products.**Table 6.1. GOTHIA TEK® limits for constituents in snus products. 2014 limits are based on dry weight except for agrochemicals which is based on “as is”**

Constituents	GOTHIA TEK® limits
NDMA (ng/g)	10
Nitrite (µg/g)	7.0
BaP (ng/g)	5
Arsenic (µg/g)	0.5
Lead (µg/g)	2.0
Cadmium (µg/g)	1.0
Chromium (µg/g)	3.0
Nickel (µg/g)	4.5
NNN+NNK (µg/g)	2.0
Agrochemicals	according to separate list

APPENDIX 2

Appendix 2: Brief Synopsis of Perceptions and Behavioral Intentions Study for General Snus.

Swedish Match, following extensive consultation with CTP and its Office of Science (“OS”), developed and conducted a new consumer perception study entitled “Perceptions and Behavioral Intentions Study for General Snus.” The purpose of the study was to determine how three potential modified risk claims, drafted after receipt of the FDA TPL in December 2016, would impact various cohorts of adult consumers’ perceptions of health risks of using General Snus and their behavioral intentions regarding tobacco.

The three claims tested were: (1) Using General Snus instead of cigarettes puts you at lower risk of mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis; (2) Using General Snus instead of cigarettes would significantly reduce harm and the risk of certain tobacco-related diseases to individual tobacco users; and (3) No tobacco is totally safe, but using General Snus instead of cigarettes puts you at a lower risk of chronic lung disease and other tobacco-related ailments.

What follows are some top-level findings and supporting tables from the final study report.

Study Design

The new consumer perception study was a quantitative, randomized, test versus control study conducted with 10,532 adult users and non-users of tobacco products. Participants were identified to represent the following six study cohorts:

1. Never tobacco users from legal age to 24 years of age;
2. Never tobacco users >24 years of age;
3. Former cigarette smokers from legal age and older;
4. Current cigarette smokers from legal age to 24 years of age;
5. Current cigarette smokers >24 years of age;
6. Current smokeless tobacco users from legal age and older.

Study participants were exposed to one of four General Snus videos, three test versions (each containing one modified risk claim as cited above) and one control version (absent any MRTP claim). All four videos had variants that allowed for balanced, randomized usage of:

- a. Government warning statements – each video included one of the following:
 - i. WARNING: This product is not a safe alternative to cigarettes.
 - ii. WARNING: This product can cause mouth cancer.
 - iii. WARNING: This product can cause gum disease and tooth loss.

- iv. WARNING: Smokeless Tobacco is addictive.
- b. General Snus flavors – Videos rotated evenly between mint and wintergreen flavors, which were chosen because they comprise roughly 70% of General Snus product sold in the US (internal sales data on file).

Study Results

All three claims, which were designed to minimize reading comprehension level on the Flesch-Kincaid²⁹ scale, performed well in terms of comprehension and perceptions of absolute and relative risks of General Snus. However, Claim 1, which specified the health effects mitigated by the use of General Snus instead of cigarettes, was the most impactful of the three claims in terms of behavioral intentions among current smokers. A summary of key conclusions from the research, with a focus on Claim 1, with supporting data, is as follows.

- When examining the whole body of evidence, across study objectives and cohorts, Claim 1 consistently achieved the most support for the study hypotheses.
 - Claim 1: *Using General Snus instead of cigarettes puts you at lower risk for mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis.*
- None of the claims tested within the consumer research motivated non-users of TNP to start using.

[Table 1. Likelihood to buy General Snus, Test vs. Control, among non-users and former users of tobacco and/or cigarettes.]

Test hypothesis: test respondents will display higher likelihood to buy General Snus.

Likelihood to buy General Snus	Control vs. Claim 1						p-value (C1 vs. control)
	Claim 1 (N=480)			Control (N=478)			
	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	
Never tobacco users - legal age to 24 years	480	.34	1.23	478	.37	1.43	0.630

²⁹ The Flesch-Kincaid scale (Flesch Reading Ease) was created in 1948 as a readability test designed to roughly identify the level of education required in order to be able to easily read a certain text. See Rudolf Flesch, *How to Write Plain English*, Ch. 2 (1981) (excerpt available at <http://pages.stern.nyu.edu/~wstarbuc/Writing/Flesch.htm>).

Likelihood to buy General Snus	Control vs. Claim 1						p-value (C1 vs. control)
	Claim 1 (N=478)			Control (N=499)			
	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	
Never tobacco users - older than 24 years of age	478	.23	1.14	499	.29	1.17	0.785

Likelihood to buy General Snus	Control vs. Claim 1						p-value (C1 vs. control)
	Claim 1 (N=480)			Control (N=478)			
	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	
Former cigarette smokers	491	.31	1.11	479	.20	.90	0.049

Note. N=total respondents;. Two-sample comparisons were between each claim vs. control. P-values were reported from one-tailed independent two-sample t-tests.

Statistical significance was adjusted according to the Holm procedure, whereby p-values ordered from lowest to highest are compared (in that order) against target, adjusted p-values of *** - $p < 0.017$, ** - $p < 0.025$, and * - $p < 0.050$, respectively. Testing ends with the first non-significant comparison.

Likelihood to buy was assessed using an 11-point Juster scale where 0= no chance, almost none [1 in 100] to 10= certain, practically certain [99+ in 100].

- Focusing exclusively on Claim 1, current tobacco users:
 - Research demonstrated that consumers comprehended Claim 1.

[Table 2. Comprehension of claim, test v. control, measured as the proportion of respondents who can correctly identify the message communicated in the respective MRTP claim.]

MRTP Claim #1: Risk for mouth cancer, heart disease, lung cancer, stroke, emphysema and chronic bronchitis (Using <i>General Snus</i> instead of cigarettes)		Control vs. Claim 1				p-value (C1 vs. control)
		Claim 1		Control		
		%	n	%	n	
Never tobacco users - legal age to 24 years	Correct	81.7%	392	13.4%	64	<0.001***
	Incorrect	18.3%	88	86.6%	414	
	<i>Decline to answer</i>	-	0	-	0	
Never tobacco users - older than 24 years of age	Correct	77.6%	370	9.6%	48	<0.001***
	Incorrect	22.4%	107	90.4%	450	
	<i>Decline to answer</i>	-	1	-	1	
Former cigarette smokers - legal age and older	Correct	85.1%	418	8.6%	41	<0.001***
	Incorrect	14.9%	73	91.4%	437	
	<i>Decline to answer</i>	-	0	-	1	

MRTP Claim #1: Risk for mouth cancer, heart disease, lung cancer, stroke, emphysema and chronic bronchitis (Using <i>General Snus</i> instead of cigarettes)						p-value (C1 vs. control)
		Claim 1 (N= 480)		Control (N=478)		
		%	n	%	n	
Current cigarette smokers - legal age to 24 years	Correct	83.2%	377	16.1%	74	<0.001 ***
	Incorrect	16.8%	76	83.9%	387	
	<i>Decline to answer</i>	-	1	-	1	
Current cigarette smokers - older than 24 years of age	Correct	81.7%	394	15.2%	76	<0.001 ***
	Incorrect	18.3%	88	84.8%	423	
	<i>Decline to answer</i>	-	1	-	0	
Current smokeless tobacco users - legal age and older	Correct	87.8%	215	19.1%	46	<0.001 ***
	Incorrect	12.2%	30	80.9%	195	
	<i>Decline to answer</i>	-	0	-	0	

[Table 3. Comprehension of number of cigarettes one can smoke a day for General Snus to lower risk of disease, test v. control.]

MRTP Claim #1: Risk for mouth cancer, heart disease, lung cancer, stroke, emphysema and chronic bronchitis (Using <i>General Snus</i> instead of cigarettes)						p-value (C1 vs. control)
		Claim 1 (N= 480)		Control (N=478)		
		%	n	%	n	
Current cigarette smokers - legal age to 24 years	Correct	56.2%	254	45.0%	206	<0.001 ***
	Incorrect	43.8%	198	55.0%	252	
	<i>Decline to answer</i>	-	2	-	4	
Current cigarette smokers - older than 24 years of age	Correct	43.7%	210	33.9%	169	<0.001 ***
	Incorrect	56.3%	271	66.1%	330	
	<i>Decline to answer</i>	-	2	-	0	
Current smokeless tobacco users - legal age and older	Correct	53.9%	132	49.4%	119	<0.001 ***
	Incorrect	46.1%	113	50.6%	122	
	<i>Decline to answer</i>	-	0	-	0	

- Respondents who viewed the test claims compared with control perceived lower absolute risk for health conditions from the daily use of only General Snus and no other TNP.

[Table 4: Perceptions of Absolute Risk of Health Conditions from the Daily Use of Only General Snus and No other TNP by Test vs. Control group]

4a. Never tobacco users - legal age to 24 years

		Claim 1 (N= 480)		Control (N=478)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	38.0%	171	29.9%	123	0.006**
	Moderate chance/high chance/very high chance	62.0%	279	70.1%	288	
	<i>Don't Know</i>	-	29	-	66	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	37.4%	164	23.5%	85	<0.001***
	Moderate chance/high chance/very high chance	62.6%	274	76.5%	277	
	<i>Don't Know</i>	-	41	-	114	-
	<i>Decline to Answer</i>	-	1	-	2	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	38.5%	175	29.6%	124	0.003**
	Moderate chance/high chance/very high chance	61.5%	279	70.4%	295	
	<i>Don't Know</i>	-	25	-	58	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	22.8%	104	7.8%	33	<0.001***
	Moderate chance/high chance/very high chance	77.2%	353	92.2%	391	
	<i>Don't Know</i>	-	23	-	54	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	20.4%	94	5.5%	24	<0.001***
	Moderate chance/high chance/very high chance	79.6%	366	94.5%	411	
	<i>Don't Know</i>	-	20	-	43	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	28.5%	129	15.5%	64	<0.001***
	Moderate chance/high chance/very high chance	71.5%	323	84.5%	349	
	<i>Don't Know</i>	-	24	-	65	-
	<i>Decline to Answer</i>	-	4	-	0	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	19.4%	90	5.5%	24	<0.001***
	Moderate chance/high chance/very high chance	80.6%	373	94.5%	411	
	<i>Don't Know</i>	-	17	-	43	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	32.3%	143	19.3%	78	<0.001***
	Moderate chance/high chance/very high chance	67.7%	300	80.7%	327	
	<i>Don't Know</i>	-	37	-	72	-
	<i>Decline to Answer</i>	-	0	-	1	-

4b. Never tobacco users - older than 24 years of age

		Claim 1 (N= 478)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	44.7%	191	28.9%	118	<0.001***
	Moderate chance/high chance/very high chance	55.3%	236	71.1%	290	
	<i>Don't Know</i>	-	50	-	90	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	43.5%	184	28.4%	116	<0.001***
	Moderate chance/high chance/very high chance	56.5%	239	71.6%	292	
	<i>Don't Know</i>	-	54	-	90	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	43.6%	186	25.5%	106	<0.001***
	Moderate chance/high chance/very high chance	56.4%	241	74.5%	310	
	<i>Don't Know</i>	-	50	-	81	-
	<i>Decline to Answer</i>	-	1	-	2	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	29.1%	123	12.2%	53	<0.001***
	Moderate chance/high chance/very high chance	70.9%	300	87.8%	383	
	<i>Don't Know</i>	-	53	-	62	-
	<i>Decline to Answer</i>	-	2	-	1	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	22.7%	98	7.9%	35	<0.001***
	Moderate chance/high chance/very high chance	77.3%	333	92.1%	408	
	<i>Don't Know</i>	-	46	-	55	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	35.8%	151	15.2%	63	<0.001***
	Moderate chance/high chance/very high chance	64.2%	271	84.8%	351	
	<i>Don't Know</i>	-	54	-	84	-
	<i>Decline to Answer</i>	-	2	-	1	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	23.9%	105	7.0%	31	<0.001***
	Moderate chance/high chance/very high chance	76.1%	334	93.0%	415	
	<i>Don't Know</i>	-	38	-	52	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	36.5%	152	18.0%	73	<0.001***
	Moderate chance/high chance/very high chance	63.5%	265	82.0%	332	
	<i>Don't Know</i>	-	59	-	93	-
	<i>Decline to Answer</i>	-	2	-	1	-

4c. Former cigarette smokers - legal age and older

		Claim 1 (N= 491)		Control (N=479)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	58.0%	260	37.8%	155	<0.001***
	Moderate chance/high chance/very high chance	42.0%	188	62.2%	255	
	<i>Don't Know</i>	-	42	-	69	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	60.2%	271	39.2%	159	<0.001***
	Moderate chance/high chance/very high chance	39.8%	179	60.8%	247	
	<i>Don't Know</i>	-	41	-	73	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	58.4%	262	36.3%	149	<0.001***
	Moderate chance/high chance/very high chance	41.6%	187	63.7%	262	
	<i>Don't Know</i>	-	41	-	68	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	33.8%	150	12.0%	51	<0.001***
	Moderate chance/high chance/very high chance	66.2%	294	88.0%	374	
	<i>Don't Know</i>	-	47	-	54	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	25.2%	115	6.5%	29	<0.001***
	Moderate chance/high chance/very high chance	74.8%	342	93.5%	415	
	<i>Don't Know</i>	-	34	-	35	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	41.2%	183	18.7%	76	<0.001***
	Moderate chance/high chance/very high chance	58.8%	261	81.3%	331	
	<i>Don't Know</i>	-	47	-	72	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	24.6%	113	5.2%	23	<0.001***
	Moderate chance/high chance/very high chance	75.4%	346	94.8%	418	
	<i>Don't Know</i>	-	32	-	38	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	41.3%	181	17.6%	72	<0.001***
	Moderate chance/high chance/very high chance	58.7%	257	82.4%	337	
	<i>Don't Know</i>	-	53	-	70	-
	<i>Decline to Answer</i>	-	0	-	0	-

4d. Current cigarette smokers - legal age to 24 years

		Claim 1 (N= 454)		Control (N=462)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	56.8%	249	39.0%	167	<0.001***
	Moderate chance/high chance/very high chance	43.2%	189	61.0%	261	
	<i>Don't Know</i>	-	16	-	33	-
	<i>Decline to Answer</i>	-	0	-	1	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	57.2%	245	36.6%	150	<0.001***
	Moderate chance/high chance/very high chance	42.8%	183	63.4%	260	
	<i>Don't Know</i>	-	25	-	50	-
	<i>Decline to Answer</i>	-	1	-	2	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	60.2%	265	44.5%	191	<0.001***
	Moderate chance/high chance/very high chance	39.8%	175	55.5%	238	
	<i>Don't Know</i>	-	14	-	31	-
	<i>Decline to Answer</i>	-	0	-	2	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	34.0%	149	11.1%	48	<0.001***
	Moderate chance/high chance/very high chance	66.0%	289	88.9%	385	
	<i>Don't Know</i>	-	16	-	28	-
	<i>Decline to Answer</i>	-	0	-	1	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	27.5%	121	6.8%	30	<0.001***
	Moderate chance/high chance/very high chance	72.5%	319	93.2%	409	
	<i>Don't Know</i>	-	13	-	22	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	44.0%	191	20.4%	86	<0.001***
	Moderate chance/high chance/very high chance	56.0%	243	79.6%	336	
	<i>Don't Know</i>	-	19	-	37	-
	<i>Decline to Answer</i>	-	1	-	3	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	27.6%	122	6.6%	29	<0.001***
	Moderate chance/high chance/very high chance	72.4%	320	93.4%	412	
	<i>Don't Know</i>	-	10	-	20	-
	<i>Decline to Answer</i>	-	2	-	1	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	46.6%	201	22.9%	97	<0.001***
	Moderate chance/high chance/very high chance	53.4%	230	77.1%	326	
	<i>Don't Know</i>	-	21	-	37	-
	<i>Decline to Answer</i>	-	2	-	2	-

4e. Current cigarette smokers - older than 24 years of age

		Claim 1 (N= 483)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	62.6%	284	49.1%	220	<0.001***
	Moderate chance/high chance/very high chance	37.4%	170	50.9%	228	
	<i>Don't Know</i>	-	28	-	51	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	64.2%	292	49.6%	221	<0.001***
	Moderate chance/high chance/very high chance	35.8%	163	50.4%	225	
	<i>Don't Know</i>	-	27	-	53	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	64.9%	296	50.6%	227	<0.001***
	Moderate chance/high chance/very high chance	35.1%	160	49.4%	222	
	<i>Don't Know</i>	-	25	-	50	-
	<i>Decline to Answer</i>	-	2	-	0	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	45.0%	201	18.9%	86	<0.001***
	Moderate chance/high chance/very high chance	55.0%	246	81.1%	370	
	<i>Don't Know</i>	-	35	-	43	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	31.7%	146	8.5%	40	<0.001***
	Moderate chance/high chance/very high chance	68.3%	314	91.5%	428	
	<i>Don't Know</i>	-	22	-	30	-
	<i>Decline to Answer</i>	-	1	-	1	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	49.7%	225	29.3%	130	<0.001***
	Moderate chance/high chance/very high chance	50.3%	228	70.7%	314	
	<i>Don't Know</i>	-	28	-	54	-
	<i>Decline to Answer</i>	-	2	-	1	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	33.6%	155	8.7%	41	<0.001***
	Moderate chance/high chance/very high chance	66.4%	306	91.3%	431	
	<i>Don't Know</i>	-	19	-	27	-
	<i>Decline to Answer</i>	-	3	-	0	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	53.4%	242	30.1%	133	<0.001***
	Moderate chance/high chance/very high chance	46.6%	211	69.9%	309	
	<i>Don't Know</i>	-	28	-	57	-
	<i>Decline to Answer</i>	-	2	-	0	-

4f. Current smokeless tobacco users - legal age and older

		Claim 1 (N= 245)		Control (N=241)		p-value (C1 vs. control)
		%	n	%	n	
Absolute risk of <u>chronic bronchitis</u>	Very low chance/low Chance	70.6%	166	58.3%	133	0.003***
	Moderate chance/high chance/very high chance	29.4%	69	41.7%	95	
	<i>Don't Know</i>	-	10	-	13	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>emphysema</u>	Very low chance/low Chance	73.2%	169	63.2%	144	0.011***
	Moderate chance/high chance/very high chance	26.8%	62	36.8%	84	
	<i>Don't Know</i>	-	14	-	13	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>lung cancer</u>	Very low chance/low Chance	73.1%	171	60.9%	140	0.003***
	Moderate chance/high chance/very high chance	26.9%	63	39.1%	90	
	<i>Don't Know</i>	-	11	-	11	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>serious health problems</u>	Very low chance/low Chance	45.7%	107	23.8%	55	<0.001***
	Moderate chance/high chance/very high chance	54.3%	127	76.2%	176	
	<i>Don't Know</i>	-	10	-	10	-
	<i>Decline to Answer</i>	-	1	-	0	-
Absolute risk of <u>gum disease</u>	Very low chance/low Chance	28.0%	66	9.1%	21	<0.001***
	Moderate chance/high chance/very high chance	72.0%	170	90.9%	211	
	<i>Don't Know</i>	-	9	-	9	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>heart disease</u>	Very low chance/low Chance	54.5%	128	28.1%	64	<0.001***
	Moderate chance/high chance/very high chance	45.5%	107	71.9%	164	
	<i>Don't Know</i>	-	10	-	13	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>mouth cancer</u>	Very low chance/low Chance	26.6%	63	9.5%	22	<0.001***
	Moderate chance/high chance/very high chance	73.4%	174	90.5%	209	
	<i>Don't Know</i>	-	8	-	10	-
	<i>Decline to Answer</i>	-	0	-	0	-
Absolute risk of <u>stroke</u>	Very low chance/low Chance	56.7%	132	29.5%	67	<0.001***
	Moderate chance/high chance/very high chance	43.3%	101	70.5%	160	
	<i>Don't Know</i>	-	12	-	14	-
	<i>Decline to Answer</i>	-	0	-	0	-

- Among respondents who viewed Claim 1 compared with control, perceptions of relative risk for General Snus were lower than smoking.

[Table 5: Perceptions of Relative Risk of Health Conditions to A Person Who Uses General Snus Daily vs. Cigarettes Daily by Test vs. Control]

5a. Never tobacco users - legal age to 24 years

		Claim 1 (N= 480)		Control (N=478)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	70.1%	317	50.8%	215	<0.001***
	The same chance/A higher chance/A much higher chance	29.9%	135	49.2%	208	
	<i>Don't Know</i>	-	26	-	52	
	<i>Decline to Answer</i>	-	2	-	3	
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	71.5%	313	46.0%	183	<0.001***
	The same chance/A higher chance/A much higher chance	28.5%	125	54.0%	215	
	<i>Don't Know</i>	-	41	-	77	
	<i>Decline to Answer</i>	-	1	-	3	
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	71.5%	328	55.8%	244	<0.001***
	The same chance/A higher chance/A much higher chance	28.5%	131	44.2%	193	
	<i>Don't Know</i>	-	21	-	41	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	52.5%	238	25.2%	110	<0.001***
	The same chance/A higher chance/A much higher chance	47.5%	215	74.8%	326	
	<i>Don't Know</i>	-	26	-	41	
	<i>Decline to Answer</i>	-	1	-	1	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.3%	354	56.0%	247	>0.999
	A higher chance/A much higher chance	22.7%	104	44.0%	194	
	<i>Don't Know</i>	-	21	-	36	
	<i>Decline to Answer</i>	-	1	-	1	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	91.2%	413	87.8%	366	0.949
	A higher chance/A much higher chance	8.8%	40	12.2%	51	
	<i>Don't Know</i>	-	25	-	60	
	<i>Decline to Answer</i>	-	2	-	1	
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	80.1%	366	60.1%	262	>0.999

		Claim 1 (N= 480)		Control (N=478)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>stroke</u>	A higher chance/A much higher chance	19.9%	91	39.9%	174	0.456
	<i>Don't Know</i>	-	20	-	41	
	<i>Decline to Answer</i>	-	3	-	1	
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	89.5%	401	89.7%	376	0.456
	A higher chance/A much higher chance	10.5%	47	10.3%	43	
	<i>Don't Know</i>	-	30	-	59	
	<i>Decline to Answer</i>	-	2	-	0	

5b. Never tobacco users - older than 24 years of age

		Claim 1 (N= 478)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	72.9%	320	46.5%	198	<0.001***
	The same chance/A higher chance/A much higher chance	27.1%	119	53.5%	228	
	<i>Don't Know</i>	-	39	-	72	
	<i>Decline to Answer</i>	-	0	-	1	
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	71.8%	319	50.0%	216	<0.001***
	The same chance/A higher chance/A much higher chance	28.2%	125	50.0%	216	
	<i>Don't Know</i>	-	33	-	67	
	<i>Decline to Answer</i>	-	1	-	0	
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	73.6%	332	47.9%	210	<0.001***
	The same chance/A higher chance/A much higher chance	26.4%	119	52.1%	228	
	<i>Don't Know</i>	-	26	-	59	
	<i>Decline to Answer</i>	-	1	-	2	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	56.2%	250	25.1%	110	<0.001***
	The same chance/A higher chance/A much higher chance	43.8%	195	74.9%	328	
	<i>Don't Know</i>	-	32	-	60	
	<i>Decline to Answer</i>	-	1	-	1	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.3%	341	58.6%	262	>0.999
	A higher chance/A much higher chance	22.7%	100	41.4%	185	
	<i>Don't Know</i>	-	36	-	50	
	<i>Decline to Answer</i>	-	1	-	2	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	91.9%	410	86.4%	370	0.996
	A higher chance/A much higher chance	8.1%	36	13.6%	58	

		Claim 1 (N= 478)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>mouth cancer</u>	<i>Don't Know</i>	-	31	-	69	-
	<i>Decline to Answer</i>	-	1	-	2	-
	The same chance/A much lower chance/A lower chance	77.8%	347	59.4%	266	>0.999
	A higher chance/A much higher chance	22.2%	99	40.6%	182	
	<i>Don't Know</i>	-	29	-	51	-
	<i>Decline to Answer</i>	-	3	-	0	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	90.1%	391	88.9%	376	0.717
	A higher chance/A much higher chance	9.9%	43	11.1%	47	
	<i>Don't Know</i>	-	43	-	75	-
	<i>Decline to Answer</i>	-	1	-	1	-

5c. Former cigarette smokers - legal age and older

		Claim 1 (N= 491)		Control (N=479)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	83.3%	394	63.0%	272	<0.001***
	The same chance/A higher chance/A much higher chance	16.7%	79	37.0%	160	
	<i>Don't Know</i>	-	18	-	47	-
	<i>Decline to Answer</i>	-	0	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	81.8%	391	62.8%	275	<0.001***
	The same chance/A higher chance/A much higher chance	18.2%	87	37.2%	163	
	<i>Don't Know</i>	-	13	-	40	-
	<i>Decline to Answer</i>	-	0	-	1	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	82.2%	393	63.8%	282	<0.001***
	The same chance/A higher chance/A much higher chance	17.8%	85	36.2%	160	
	<i>Don't Know</i>	-	12	-	37	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	63.9%	304	32.2%	142	<0.001***
	The same chance/A higher chance/A much higher chance	36.1%	172	67.8%	299	
	<i>Don't Know</i>	-	15	-	37	-
	<i>Decline to Answer</i>	-	0	-	1	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	75.1%	356	57.6%	255	>0.999
	A higher chance/A much higher chance	24.9%	118	42.4%	188	
	<i>Don't Know</i>	-	0	-	0	-
	<i>Decline to Answer</i>	-	-	-	-	-

		Claim 1 (N= 491)		Control (N=479)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	94.3%	443	93.3%	404	0.723
	A higher chance/A much higher chance	5.7%	27	6.7%	29	
	<i>Don't Know</i>	-	21	-	46	-
	<i>Decline to Answer</i>	-	0	-	0	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	75.1%	356	54.4%	240	>0.999
	A higher chance/A much higher chance	24.9%	118	45.6%	201	
	<i>Don't Know</i>	-	16	-	37	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	95.1%	442	91.5%	388	0.983
	A higher chance/A much higher chance	4.9%	23	8.5%	36	
	<i>Don't Know</i>	-	26	-	54	-
	<i>Decline to Answer</i>	-	0	-	1	-

5d. Current cigarette smokers - legal age to 24 years

		Claim 1 (N=454)		Control (N=462)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	74.9%	322	56.0%	242	<0.001***
	The same chance/A higher chance/A much higher chance	25.1%	108	44.0%	190	
	<i>Don't Know</i>	-	22	-	25	-
	<i>Decline to Answer</i>	-	2	-	5	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	75.5%	321	51.3%	210	<0.001***
	The same chance/A higher chance/A much higher chance	24.5%	104	48.7%	199	
	<i>Don't Know</i>	-	28	-	50	-
	<i>Decline to Answer</i>	-	1	-	3	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	77.2%	338	57.6%	255	<0.001***
	The same chance/A higher chance/A much higher chance	22.8%	100	42.4%	188	
	<i>Don't Know</i>	-	15	-	18	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	61.7%	269	26.3%	116	<0.001***
	The same chance/A higher chance/A much higher chance	38.3%	167	73.7%	325	
	<i>Don't Know</i>	-	16	-	17	-
	<i>Decline to Answer</i>	-	2	-	4	-

		Claim 1 (N=454)		Control (N=462)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	73.0%	321	60.9%	266	>0.999
	A higher chance/A much higher chance	27.0%	119	39.1%	171	
	<i>Don't Know</i>	-	14	-	23	-
	<i>Decline to Answer</i>	-	0	-	2	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	92.9%	406	86.1%	373	>0.999
	A higher chance/A much higher chance	7.1%	31	13.9%	60	
	<i>Don't Know</i>	-	15	-	27	-
	<i>Decline to Answer</i>	-	2	-	2	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	78.3%	347	60.3%	266	>0.999
	A higher chance/A much higher chance	21.7%	96	39.7%	175	
	<i>Don't Know</i>	-	9	-	19	-
	<i>Decline to Answer</i>	-	2	-	2	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	94.0%	405	88.5%	378	0.998
	A higher chance/A much higher chance	6.0%	26	11.5%	49	
	<i>Don't Know</i>	-	22	-	32	-
	<i>Decline to Answer</i>	-	1	-	3	-

5e. Current cigarette smokers - older than 24 years of age

		Claim 1 (N= 483)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	82.5%	377	60.1%	283	<0.001***
	The same chance/A higher chance/A much higher chance	17.5%	80	39.9%	188	
	<i>Don't Know</i>	-	25	-	28	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	80.6%	369	58.2%	272	<0.001***
	The same chance/A higher chance/A much higher chance	19.4%	89	41.8%	195	
	<i>Don't Know</i>	-	24	-	32	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	80.5%	371	59.0%	281	<0.001***
	The same chance/A higher chance/A much higher chance	19.5%	90	41.0%	195	
	<i>Don't Know</i>	-	20	-	23	-
	<i>Decline to Answer</i>	-	2	-	0	-

		Claim 1 (N= 483)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	63.7%	293	31.3%	149	<0.001***
	The same chance/A higher chance/A much higher chance	36.3%	167	31.3%	149	
	<i>Don't Know</i>	-	22	68.7%	327	-
	<i>Decline to Answer</i>	-	1	-	22	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.8%	357	57.2%	270	>0.999
	A higher chance/A much higher chance	22.2%	102	42.8%	202	
	<i>Don't Know</i>	-	22	-	27	-
	<i>Decline to Answer</i>	-	2	-	0	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	93.0%	424	89.0%	413	0.983
	A higher chance/A much higher chance	7.0%	32	11.0%	51	
	<i>Don't Know</i>	-	26	-	35	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	80.7%	372	60.6%	288	>0.999
	A higher chance/A much higher chance	19.3%	89	39.4%	187	
	<i>Don't Know</i>	-	20	-	22	-
	<i>Decline to Answer</i>	-	2	-	2	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	94.7%	429	90.6%	422	0.992
	A higher chance/A much higher chance	5.3%	24	9.4%	44	
	<i>Don't Know</i>	-	28	-	33	-
	<i>Decline to Answer</i>	-	2	-	0	-

5f. Current smokeless tobacco users - legal age and older

		Claim 1 (N=245)		Control (N=241)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	84.2%	203	72.4%	168	0.001***
	The same chance/A higher chance/A much higher chance	15.8%	38	27.6%	64	
	<i>Don't Know</i>	-	4	-	9	-
	<i>Decline to Answer</i>	-	0	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	80.1%	189	70.7%	164	0.009**
	The same chance/A higher chance/A much higher chance	19.9%	47	29.3%	68	
	<i>Don't Know</i>	-	9	-	9	-
	<i>Decline to Answer</i>	-	0	-	0	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	84.7%	205	77.0%	181	0.016***

		Claim 1 (N=245)		Control (N=241)		p-value (C1 vs. control)
		%	n	%	n	
	The same chance/A higher chance/A much higher chance	15.3%	37	23.0%	54	
	<i>Don't Know</i>	-	3	-	6	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	72.8%	174	45.5%	106	<0.001***
	The same chance/A higher chance/A much higher chance	27.2%	65	54.5%	127	
	<i>Don't Know</i>	-	6	-	8	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.2%	186	66.5%	157	0.995
	A higher chance/A much higher chance	22.8%	55	33.5%	79	
	<i>Don't Know</i>	-	4	-	5	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	92.1%	222	92.8%	218	0.394
	A higher chance/A much higher chance	7.9%	19	7.2%	17	
	<i>Don't Know</i>	-	4	-	6	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	80.2%	190	65.1%	153	>0.999
	A higher chance/A much higher chance	19.8%	47	34.9%	82	
	<i>Don't Know</i>	-	8	-	5	
	<i>Decline to Answer</i>	-	0	-	1	
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	92.7%	217	94.8%	221	0.172
	A higher chance/A much higher chance	7.3%	17	5.2%	12	
	<i>Don't Know</i>	-	11	-	8	
	<i>Decline to Answer</i>	-	0	-	0	

[Table 6: Perceptions of Relative Risk of Health Conditions to A Person Who Uses General Snus Daily vs. Daily Use of both General Snus and Cigarettes by Test vs. Control]

6a. Never tobacco users - legal age to 24 years

		Claim 1 (N= 480)		Control (N=478)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	65.9%	300	51.5%	219	<0.001***
	The same chance/A higher chance/A much higher chance	34.1%	155	48.5%	206	
	<i>Don't Know</i>	-	24	-	53	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	66.3%	295	49.4%	198	<0.001***
	The same chance/A higher chance/A much higher chance	33.7%	150	50.6%	203	
	<i>Don't Know</i>	-	34	-	74	-
	<i>Decline to Answer</i>	-	1	-	3	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	66.7%	305	53.4%	233	<0.001***
	The same chance/A higher chance/A much higher chance	33.3%	152	46.6%	203	
	<i>Don't Know</i>	-	22	-	42	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	61.7%	282	45.6%	202	<0.001***
	The same chance/A higher chance/A much higher chance	38.3%	175	54.4%	241	
	<i>Don't Know</i>	-	22	-	35	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	80.3%	366	69.8%	308	>0.999
	A higher chance/A much higher chance	19.7%	90	30.2%	133	
	<i>Don't Know</i>	-	23	-	37	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	85.5%	390	83.3%	354	0.820
	A higher chance/A much higher chance	14.5%	66	16.7%	71	
	<i>Don't Know</i>	-	23	-	52	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	80.1%	366	71.7%	317	0.998
	A higher chance/A much higher chance	19.9%	91	28.3%	125	
	<i>Don't Know</i>	-	22	-	35	-
	<i>Decline to Answer</i>	-	1	-	1	-

		Claim 1 (N= 480)		Control (N=478)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	86.5%	391	79.7%	338	0.996
	A higher chance/A much higher chance	13.5%	61	20.3%	86	
	<i>Don't Know</i>	-	27	-	54	-
	<i>Decline to Answer</i>	-	1	-	0	-

6b. Never tobacco users - older than 24 years of age

		Claim 1 (N= 478)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	59.7%	262	40.8%	171	<0.001***
	The same chance/A higher chance/A much higher chance	40.3%	177	59.2%	248	
	<i>Don't Know</i>	-	38	-	78	-
	<i>Decline to Answer</i>	-	1	-	2	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	58.7%	256	43.9%	189	<0.001***
	The same chance/A higher chance/A much higher chance	41.3%	180	56.1%	242	
	<i>Don't Know</i>	-	39	-	68	-
	<i>Decline to Answer</i>	-	3	-	0	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	59.1%	262	41.7%	183	<0.001***
	The same chance/A higher chance/A much higher chance	40.9%	181	58.3%	256	
	<i>Don't Know</i>	-	32	-	59	-
	<i>Decline to Answer</i>	-	3	-	1	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	53.1%	233	30.1%	132	<0.001***
	The same chance/A higher chance/A much higher chance	46.9%	206	69.9%	306	
	<i>Don't Know</i>	-	36	-	61	-
	<i>Decline to Answer</i>	-	3	-	0	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	73.1%	316	64.9%	289	0.995
	A higher chance/A much higher chance	26.9%	116	35.1%	156	
	<i>Don't Know</i>	-	44	-	52	-
	<i>Decline to Answer</i>	-	2	-	2	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	84.5%	377	76.4%	327	0.999
	A higher chance/A much higher chance	15.5%	69	23.6%	101	
	<i>Don't Know</i>	-	30	-	70	-
	<i>Decline to Answer</i>	-	2	-	1	-

		Claim 1 (N= 478)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	76.2%	336	63.8%	282	>0.999
	A higher chance/A much higher chance	23.8%	105	36.2%	160	
	<i>Don't Know</i>	-	34	-	57	-
	<i>Decline to Answer</i>	-	3	-	0	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	82.7%	359	78.0%	334	0.958
	A higher chance/A much higher chance	17.3%	75	22.0%	94	
	<i>Don't Know</i>	-	42	-	68	-
	<i>Decline to Answer</i>	-	2	-	3	-

6c. Former cigarette smokers - legal age and older

		Claim 1 (N= 491)		Control (N=479)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	68.8%	322	49.4%	218	<0.001***
	The same chance/A higher chance/A much higher chance	31.2%	146	50.6%	223	
	<i>Don't Know</i>	-	23	-	38	-
	<i>Decline to Answer</i>	-	0	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	69.2%	322	53.6%	236	<0.001***
	The same chance/A higher chance/A much higher chance	30.8%	143	46.4%	204	
	<i>Don't Know</i>	-	25	-	39	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	70.5%	332	48.4%	215	<0.001***
	The same chance/A higher chance/A much higher chance	29.5%	139	51.6%	229	
	<i>Don't Know</i>	-	19	-	34	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	60.0%	284	38.1%	168	<0.001***
	The same chance/A higher chance/A much higher chance	40.0%	189	61.9%	273	
	<i>Don't Know</i>	-	18	-	37	-
	<i>Decline to Answer</i>	-	0	-	1	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	75.4%	353	61.1%	269	>0.999
	A higher chance/A much higher chance	24.6%	115	38.9%	171	
	<i>Don't Know</i>	-	23	-	38	-
	<i>Decline to Answer</i>	-	0	-	1	-

		Claim 1 (N= 491)		Control (N=479)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	85.4%	397	78.9%	348	0.994
	A higher chance/A much higher chance	14.6%	68	21.1%	93	
	<i>Don't Know</i>	-	25	-	36	-
	<i>Decline to Answer</i>	-	1	-	2	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	74.1%	347	62.2%	275	>0.999
	A higher chance/A much higher chance	25.9%	121	37.8%	167	
	<i>Don't Know</i>	-	23	-	36	-
	<i>Decline to Answer</i>	-	0	-	1	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	87.0%	407	80.7%	343	0.994
	A higher chance/A much higher chance	13.0%	61	19.3%	82	
	<i>Don't Know</i>	-	23	-	53	-
	<i>Decline to Answer</i>	-	0	-	1	-

6d. Current cigarette smokers - legal age to 24 years

		Claim 1 (N=454)		Control (N=462)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	68.5%	296	50.2%	221	<0.001***
	The same chance/A higher chance/A much higher chance	31.5%	136	49.8%	219	
	<i>Don't Know</i>	-	21	-	21	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	65.5%	279	48.9%	205	<0.001***
	The same chance/A higher chance/A much higher chance	34.5%	147	51.1%	214	
	<i>Don't Know</i>	-	26	-	37	-
	<i>Decline to Answer</i>	-	2	-	6	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	67.0%	295	56.1%	247	<0.001***
	The same chance/A higher chance/A much higher chance	33.0%	145	43.9%	193	
	<i>Don't Know</i>	-	14	-	20	-
	<i>Decline to Answer</i>	-	0	-	2	-
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	62.3%	273	42.5%	189	<0.001***
	The same chance/A higher chance/A much higher chance	37.7%	165	57.5%	256	
	<i>Don't Know</i>	-	16	-	15	-
	<i>Decline to Answer</i>	-	0	-	2	-

		Claim 1 (N=454)		Control (N=462)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.4%	336	67.0%	295	>0.999
	A higher chance/A much higher chance	22.6%	98	33.0%	145	
	<i>Don't Know</i>	-	20	-	19	-
	<i>Decline to Answer</i>	-	0	-	3	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	83.7%	369	77.4%	335	0.990
	A higher chance/A much higher chance	16.3%	72	22.6%	98	
	<i>Don't Know</i>	-	13	-	24	-
	<i>Decline to Answer</i>	-	0	-	5	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	82.0%	360	69.7%	304	>0.999
	A higher chance/A much higher chance	18.0%	79	30.3%	132	
	<i>Don't Know</i>	-	15	-	23	-
	<i>Decline to Answer</i>	-	0	-	3	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	84.3%	366	79.4%	342	0.971
	A higher chance/A much higher chance	15.7%	68	20.6%	89	
	<i>Don't Know</i>	-	19	-	29	-
	<i>Decline to Answer</i>	-	1	-	2	-

6e. Current cigarette smokers - older than 24 years of age

		Claim 1 (N= 483)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	67.0%	302	46.1%	217	<0.001***
	The same chance/A higher chance/A much higher chance	33.0%	149	53.9%	254	
	<i>Don't Know</i>	-	31	-	28	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	66.8%	302	48.1%	224	<0.001***
	The same chance/A higher chance/A much higher chance	33.2%	150	51.9%	242	
	<i>Don't Know</i>	-	29	-	32	-
	<i>Decline to Answer</i>	-	2	-	1	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	63.9%	287	44.4%	211	<0.001***
	The same chance/A higher chance/A much higher chance	36.1%	162	55.6%	264	
	<i>Don't Know</i>	-	32	-	24	-
	<i>Decline to Answer</i>	-	2	-	0	-

		Claim 1 (N= 483)		Control (N=499)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	58.4%	263	33.3%	159	<0.001***
	The same chance/A higher chance/A much higher chance	41.6%	187	66.7%	318	
	<i>Don't Know</i>	-	31	-	18	-
	<i>Decline to Answer</i>	-	2	-	4	-
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	77.1%	351	65.0%	307	>0.999
	A higher chance/A much higher chance	22.9%	104	35.0%	165	
	<i>Don't Know</i>	-	27	-	25	-
	<i>Decline to Answer</i>	-	1	-	2	-
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	86.0%	386	79.9%	370	0.992
	A higher chance/A much higher chance	14.0%	63	20.1%	93	
	<i>Don't Know</i>	-	33	-	35	-
	<i>Decline to Answer</i>	-	1	-	1	-
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	76.3%	348	63.0%	298	>0.999
	A higher chance/A much higher chance	23.7%	108	37.0%	175	
	<i>Don't Know</i>	-	25	-	24	-
	<i>Decline to Answer</i>	-	2	-	2	-
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	87.5%	392	78.9%	366	>0.999
	A higher chance/A much higher chance	12.5%	56	21.1%	98	
	<i>Don't Know</i>	-	33	-	34	-
	<i>Decline to Answer</i>	-	2	-	1	-

6f. Current smokeless tobacco users - legal age and older

		Claim 1 (N=245)		Control (N=241)		p-value (C1 vs. control)
		%	n	%	n	
Relative risk of <u>chronic bronchitis</u>	A much lower chance/A lower chance	71.1%	170	57.8%	134	0.001***
	The same chance/A higher chance/A much higher chance	28.9%	69	42.2%	98	
	<i>Don't Know</i>	-	6	-	8	-
	<i>Decline to Answer</i>	-	0	-	1	-
Relative risk of <u>emphysema</u>	A much lower chance/A lower chance	66.8%	157	53.2%	124	0.001**
	The same chance/A higher chance/A much higher chance	33.2%	78	46.8%	109	
	<i>Don't Know</i>	-	9	-	8	-
	<i>Decline to Answer</i>	-	1	-	0	-
Relative risk of <u>lung cancer</u>	A much lower chance/A lower chance	69.2%	166	57.4%	135	0.004**

		Claim 1 (N=245)		Control (N=241)		p-value (C1 vs. control)
		%	n	%	n	
	The same chance/A higher chance/A much higher chance	30.8%	74	42.6%	100	
	<i>Don't Know</i>	-	5	-	6	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>serious health problems</u>	A much lower chance/A lower chance	68.5%	161	50.9%	119	<0.001***
	The same chance/A higher chance/A much higher chance	31.5%	74	49.1%	115	
	<i>Don't Know</i>	-	10	-	7	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>gum disease</u>	The same chance/A much lower chance/A lower chance	79.7%	189	74.4%	174	0.918
	A higher chance/A much higher chance	20.3%	48	25.6%	60	
	<i>Don't Know</i>	-	8	-	7	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>heart disease</u>	The same chance/A much lower chance/A lower chance	86.5%	205	81.6%	191	0.926
	A higher chance/A much higher chance	13.5%	32	18.4%	43	
	<i>Don't Know</i>	-	8	-	7	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>mouth cancer</u>	The same chance/A much lower chance/A lower chance	81.1%	193	72.6%	170	0.985
	A higher chance/A much higher chance	18.9%	45	27.4%	64	
	<i>Don't Know</i>	-	7	-	7	
	<i>Decline to Answer</i>	-	0	-	0	
Relative risk of <u>stroke</u>	The same chance/A much lower chance/A lower chance	86.0%	202	85.6%	202	0.545
	A higher chance/A much higher chance	14.0%	33	14.4%	34	
	<i>Don't Know</i>	-	10	-	5	
	<i>Decline to Answer</i>	-	0	-	0	

- Claim 1 demonstrated consistently higher believability among test respondents versus control.

[Table 7: Believability of General Snus modified risk Claim 1, test vs. control]

		Claim 1		Control		p-value (C1 vs. control)
		%	n	%	n	
Never tobacco users - legal age to 24 years	Not at all believable / A little bit believable	62.0%	289	79.6%	366	<0.001***
	Somewhat believable / Very believable	38.0%	177	20.4%	94	
	<i>Don't Know</i>	-	13	-	38	-
	<i>Decline to Answer</i>	-	1	-	1	-
Never tobacco users - older than 24 years of age	Not at all believable / A little bit believable	64.1%	286	70.7%	164	<0.001***
	Somewhat believable / Very believable	35.9%	160	29.3%	68	
	<i>Don't Know</i>	-	29	-	9	-
	<i>Decline to Answer</i>	-	3	-	0	-
Former cigarette smokers - legal age and older	Not at all believable / A little bit believable	60.8%	295	75.8%	350	<0.001***
	Somewhat believable / Very believable	39.2%	190	24.2%	112	
	<i>Don't Know</i>	-	6	-	16	-
	<i>Decline to Answer</i>	-	0	-	1	-
Current cigarette users – legal age to 24 years	Not at all believable / A little bit believable	51.6%	231	67.0%	299	<0.001***
	Somewhat believable / Very believable	48.4%	217	33.0%	147	
	<i>Don't Know</i>	-	6	-	14	-
	<i>Decline to Answer</i>	-	0	-	2	-
Current cigarette smokers - older than 24 years of age	Not at all believable / A little bit believable	46.0%	215	64.9%	310	<0.001***
	Somewhat believable / Very believable	54.0%	252	35.1%	168	
	<i>Don't Know</i>	-	14	-	21	-
	<i>Decline to Answer</i>	-	2	-	0	-
Current smokeless tobacco users - legal age and older	Not at all believable / A little bit believable	29.2%	71	45.3%	107	<0.001***
	Somewhat believable / Very believable	70.8%	172	54.7%	129	
	<i>Don't Know</i>	-	2	-	5	-
	<i>Decline to Answer</i>	-	0	-	0	-

Statistical significance was adjusted according to the Holm procedure, whereby p-values ordered from lowest to highest are compared (in that order) against target, adjusted p-values of *** - $p < 0.017$, ** - $p < 0.025$, and * - $p < 0.050$, respectively. Testing ends with the first non-significant comparison.

- For current cigarette users greater than 24 years of age, viewing Claim 1 resulted in statistically significantly higher intent to try General Snus, compared with control.

[Table 8: Likelihood to buy General Snus among current smokers, Test vs. Control.]

8a: Current Cigarette Smokers Older Than 24 Years of Age

Likelihood to buy General Snus	Control vs. Claim 1						p-value (C1 vs. control)
	Claim 1 (N=483)			Control (N=499)			
	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	
Current Cigarette Smokers - > 24 years	483	2.04	2.86	499	1.49	2.55	0.001***

Note. N=total respondents; SD=standard deviation. Two-sample comparisons were between each claim vs. control. P-values were reported from one-tailed independent two-sample t-tests.

Statistical significance was adjusted according to the Holm procedure, whereby p-values ordered from lowest to highest are compared (in that order) against target, adjusted p-values of *** - $p < 0.017$, ** - $p < 0.025$, and * - $p < 0.050$, respectively. Testing ends with the first non-significant comparison.

Likelihood to buy was assessed using an 11-point Juster scale where 0= no chance, almost none [1 in 100] to 10= certain, practically certain [99+ in 100].

- For current cigarette users above legal age for tobacco use but less than or equal to 24 years of age, viewing Claim 1 resulted in directionally higher intent to try General Snus, compared with control.

8b: Current Cigarette Smokers Legal Age to 24 Years

Likelihood to buy General Snus	Control vs. Claim 1						p-value (C1 vs. control)
	Claim 1 (N=454)			Control (N=462)			
	Valid N	Mean	Standard Deviation	Valid N	Mean	Standard Deviation	
Current Cigarette Smokers – legal age to 24 years	454	2.19	2.80	462	1.85	2.53	0.030

Note. N=total respondents; SD=standard deviation. Two-sample comparisons were between each claim vs. control. P-values were reported from one-tailed independent two-sample t-tests.

Statistical significance was adjusted according to the Holm procedure, whereby p-values ordered from lowest to highest are compared (in that order) against target, adjusted p-values of *** - $p < 0.017$, ** - $p < 0.025$, and * - $p < 0.050$, respectively. Testing ends with the first non-significant comparison.

Likelihood to buy was assessed using an 11-point Juster scale where 0= no chance, almost none [1 in 100] to 10= certain, practically certain [99+ in 100].

APPENDIX 3

Appendix 3: Supporting Information from Perceptions and Behavioral Intentions Study for General Snus.

All information that follows in Appendix 3 is sourced verbatim from the Perceptions and Behavioral Intentions Study final report submitted as part of the amended General Snus MRTP application.

I. OVERALL STUDY DESIGN

A. Study Stimuli

Swedish Match North America (“SMNA”) embarked upon a series of qualitative research studies for the sole purpose of identifying appropriate stimuli for communicating information about *General Snus* and respective MRTP claims to consumers. (Note: cognitive interviews are considered outside the scope of this study stream.) Three phases of research, comprised of both focus groups (8-10 people in size) and triads (3 people in size), covering seven major US markets (Chicago, Seattle, St. Louis, Charlotte, Minneapolis, Denver, and Washington, D.C.) resulted in a total of 119 respondents providing input over a four-month window. (Research took place May-August 2017).

In an effort to identify “appropriate” stimuli, the following points were considered.

- All stimuli had to include mandatory government warnings regarding smokeless tobacco.
- SMNA had to be able to substantiate all information provided in claims without exception, with an understandable focus on MRTP claims.
- Stimuli had to provide background on snus – what snus is, how it differs from other smokeless tobacco products, how to use it appropriately, etc.
- Stimuli had to communicate why *General Snus* differed from other snus.
- Stimuli had to have stopping power, so that a consumer would pay attention and digest all information provided.
- Stimuli were reworked and reassessed whenever possible to minimize the reading level required to comprehend claims.

Ultimately, key decision criteria utilized during qualitative research were:

- i. Comprehension. Did the respondent understand the information provided?
- ii. Believability. Did the respondent find the information credible?
- iii. Motivation. Was the respondent motivated to try *General Snus*, in place of cigarettes, based on the stimuli?

SMNA elected to present stimuli to respondents in video format, with each video being approximately one minute in length. There were four main videos – three test versions, and one control version. All information presented to respondents in each video was identical, with the following key exceptions.

1. The three test videos included one of the three tested MRTP claims respectively. The control video omitted any test claims but was otherwise identical.

2. All four test videos had variants that allowed for balanced, randomized usage of:
 - a. Government warning statements (four in total).
 - b. *General Snus* flavors. Videos rotated evenly between mint and wintergreen flavors, chosen because they comprise roughly 70% of *General Snus* product sold in the US. (Per SMNA internal sales data.) Based on conversations with FDA and historical product knowledge, SMNA believed it would be unnecessary to evaluate any different reactions to MRTP claims based on changes in flavor.

Video scripts and screenshots are included as appendices in the overall SMNA MRTP amendment.

B. Quantitative Study Design

Data were obtained using responses from a customized web-based survey of invited consumers: individuals from the US. adult population who met inclusion and exclusion criteria and who agreed to participate. Consumers initially were recruited from verified (email and postal address verification) online consumer panels from Lightspeed Research, Survey Sampling International, and Research Now. These large commercial consumer panels profile panelists on self-reported characteristics including age, gender, location, income, ethnicity, household size, marital status, presence of young children, and education. The panels are reflective of the U.S. population; however, these panels are not balanced to the U.S. census. The panels are sizeable enough to generate samples that ensure that the study sample source is a reliable representation of the U.S. online population.

Recruitment of a study sample that is representative of the U.S. population proceeded based on panelist self-reported background information. A representative sample reflecting socio-demographic characteristics of the adult population based on U.S. Census data was selected from these panels, reflecting the marginal distribution of age, gender, geographical region, ethnicity, race, and education. Next, a sampling frame consisting of all legal age panelists from each state was created. The invited sample was then derived from a stratified sampling framework based on socio-demographic characteristics of the adult population from the Population Assessment of Tobacco and Health (PATH) study data ([ICPSR 36231, 2018](#)). Panelists with required demographic profiles were randomly selected for inclusion in the invited sample until demographic profile quotas were met in each study cohort. This recruitment methodology was expected to provide socio-demographic profiles consistent with the adult population based on the PATH study data for each of the study cohorts. More information about the recruitment and fielding of this study can be found in Protocol Section 8.1 ([Appendix 16.1.1](#)).

The Perceptions and Behavioral Intentions Study for *General Snus* was designed as a 15-20 minute survey accessible via a computer, smartphone, or tablet. Cognitive interviews preceded survey finalization to ensure that the survey materials were appropriate and sufficiently clear to respondents. More information about the cognitive interviews can be found in Protocol Section 8.3 ([Appendix 16.1.1](#)). A between-groups, test versus control methodology was utilized to assess the impact of the MRTP claims. This was a factorial design, 4 claims (3 test and 1 control) x 4 warnings x 2 flavors (totaling 32 cells). The claims (3 test and 1 control) served as the experimental stimulus, and the other factors were randomly distributed in a balanced way across respondents. Specifically, respondents within each of the six cohorts were randomly assigned into one of 3 test cells (one for each modified risk claim to be tested) or 1 control cell for testing the absence of a modified risk claim. Claims were embedded in a video advertisement for *General Snus*, with the

control version having no such claim. Each of the video advertisements also included 1 of the 4 mandated warning statements and 1 of 2 flavors of *General Snus* (Table 1).

The three-modified risk claims to be tested were:

1. Using *General Snus* instead of cigarettes puts you at lower risk for mouth cancer, heart disease, lung cancer, stroke, emphysema, and chronic bronchitis. (Highest performing claim during 2017 qualitative research.)
2. Using *General Snus* instead of cigarettes would significantly reduce harm and the risk of certain tobacco-related diseases to individual tobacco users. (Statement taken verbatim from FDA TPL, delivered in response to initial *General Snus* MRTP application.)
3. No tobacco is totally safe, but using *General Snus* instead of cigarettes, puts you at a lower risk of chronic lung disease and other tobacco-related ailments. (Identified as strong option from qualitative studies, plus added caveat of no tobacco being totally safe.)

The warning labels to be randomized within each test/control cell were:

1. WARNING: This product is not a safe alternative to cigarettes.
2. WARNING: This product can cause mouth cancer.
3. WARNING: This product can cause gum disease and tooth loss.
4. WARNING: Smokeless tobacco is addictive.

The flavors to be randomized within each test/control cell were:

1. Mint
2. Wintergreen

C. Variables of Relevance to the Study

This was an observational study. The objective of the perceptions and behavioral intentions study for *General Snus* was to determine how proposed modified risk claims impact various cohorts of adult consumers' perceptions of health risk of using *General Snus* and their behavior intentions regarding TNPs. There were no safety measures applied in this study.

1. Outcomes

Likelihood to buy *General Snus* was assessed with the 11-point Juster Scale. The Juster Scale is a probability scale that can be used to produce estimates of the average probability that a population performed a certain behavior by a future time (Juster, 1966). As the Juster Scale measures probability, the mean response predicts the proportion of the population that performed the behavior. Research has shown that the Juster Scale is effective in predicting consumers' future purchasing behaviors (McDonald and Alpert, 2001).

Likelihood to use TNP(s) was measured with a custom, single-choice 4-point ordinal scale assessing the use of TNP moving forward (after viewing *General Snus* video), separately for each TNP. Cognitive interviewing demonstrated that saturation was achieved for this measure.

Saturation was defined at 80% or more of the respondents being able to verbalize a logical thought process when answering the question that fit with the intent of the question.

Intention to quit was measured by the one-item validated instrument, Motivation to Stop Scale (MTSS) (Kotz et al., 2013). The MTSS consists of one-item with seven response categories ranging from 1 (lowest) to 7 (highest level of motivation to stop smoking). Scale developers found that odds of quit attempts increased linearly with increasing levels of motivation. In the current study, the MTSS was used for assessing intention to quit cigarettes and/or other TNPs. Consistent with published research using the MTSS, the mean MTSS score was reported (Hummel et al., 2017).

Perceptions of absolute health risk associated with daily use of *General Snus* and no other TNP were assessed using a single-choice scale (5-point Likert scale, fully anchored; from 1 = very low chance to 5 = very high chance, also including “don’t know” and “decline to answer”) for each of 8 health conditions (chronic bronchitis, emphysema, gum disease, heart disease, lung cancer, mouth cancer, stroke, and serious health problems). This scale was adopted in modified format from the risk perception scale used in the National Cancer Institute (NCI) Health Information National Trends Survey (HINTS) (National Cancer Institute, Health Information National Trends Survey (HINTS) 2005). The 5-point Likert scale used in HINTS had response options where 1 = much less harmful to 5 = much more harmful. The response options were changed to fit with the structure of the question in the survey. Additionally, this measure also achieved saturation during cognitive interviewing.

Perceptions of relative health risk were assessed using a single-choice scale (5-point Likert scale, fully anchored; from 1 = a much lower chance to 5 = a much higher chance, also including “don’t know” and “decline to answer”) for each of the 8 health conditions (chronic bronchitis, emphysema, gum disease, heart disease, lung cancer, mouth cancer, stroke, and serious health problems) contrasting *General Snus* use to several other risk exposures. The risk exposures assessed for each health condition included daily use of *General Snus* vs. the daily use of other TNP, aids to help stop smoking, both cigarettes and *General Snus*, and never having used any TNPs, and quitting all TNP relative to quitting all TNP except for *General Snus*. This scale was modified from the risk perception scale used in HINTS. The 5-point Likert scale used in HINTS had response options where 1 = much less harmful to 5 = much more harmful; the response options were changed to fit with the structure of the question in the survey. Additionally, this measure also achieved saturation during cognitive interviewing.

Comprehension of the modified test claims was assessed with 5 items measuring comprehension of the various pieces of information presented in the modified test claims. The multiple-choice response options include 6 or 7 response options with one correct answer along with “don’t know” and “decline to answer.” The “don’t know” response was coded as incorrect. This approach was based on feedback on the Study Protocol from the FDA.

Believability of the test claims was assessed via a 4-point ordinal scale; from 1 = not at all believable to 4 = very believable, also including “don’t know” and “decline to answer” for each of the three modified test claims.

References

No.	Document	Link
1	September 17, 2018 Amendment to the MRTPAs	https://www.fda.gov/tobaccoproducts/labeling/marketingandadvertising/ucm533454.htm
2	PMTA Technical Project Lead (TPL) Review (Nov. 2, 2015)	https://www.fda.gov/downloads/tobaccoproducts/labeling/tobaccoproductreviewevaluation/ucm472123.pdf
3	Excerpt from Rudolf Flesch, <i>How to Write Plain English</i> (1981)	http://pages.stern.nyu.edu/~wstarbuc/Writing/Flesch.htm
4	Perceptions and Behavioral Intentions Study for <i>General Snus</i> (Jul. 17, 2018)	https://www.fda.gov/tobaccoproducts/labeling/marketingandadvertising/ucm533454.htm (included in MRTPA Amendment)
5	Juster, F. (1966). Consumer Buying Intentions and Purchase Probability: An Experiment in Survey Design. <i>Journal of the American Statistical Association</i> , 61(315), 658-696. doi:10.2307/2282779	https://www.jstor.org/stable/2282779?seq=1#page_scan_tab_contents
6	McDonald, H. & Alpert, F. (2001). Using the Juster scale to predict adoption of an innovative product. Retrieved from http://dro.deakin.edu.au/view/DU:30004507 .	http://dro.deakin.edu.au/view/DU:30004507
7	Kotz, D., Brown, J., & West, R. (2013). Predictive validity of the Motivation To Stop Scale (MTSS): A single-item measure of motivation to stop smoking. <i>Drug and Alcohol Dependence</i> , 128(1-2), 15-19. doi:10.1016/j.drugalcdep.2012.07.012	https://www.sciencedirect.com/science/article/pii/S0376871612002864
8	Hummel, K., Brown, J., Willemsen, M. C., West, R., & Kotz, D. (2017). External validation of the Motivation To Stop Scale (MTSS): Findings from the International Tobacco Control (ITC) Netherlands Survey. <i>The European Journal of Public Health</i> , 27(1), 129-134. doi:10.1093/eurpub/ckw105	https://academic.oup.com/eurpub/article/27/1/129/2616298