

Appendix 3.2-2: ALCS Analyses of NSDUH Data for Section 3.2 – Description of Conditions for and Actual Use of the Product

- **Statement of Purpose/ Objective:** To substantiate NSDUH analyses in Section 3.2
- **Source and data set up:** NSDUH Public Use File 2014

Analysis weight (analwt_c) was used to account for differential selection probabilities, nonresponse patterns, and post-stratification factors. Variance estimation was adjusted for cluster replicates (verep) and stratum (vestr). Data were set up using the following command in Stata 15.0:

```
svyset verep [pweight=analwt_c], strata(vestr) single(centered)
```

- **Summary of outcomes assessed:**
We conducted analysis for five outcomes using NSDUH 2014 public use file for Section 3.2. These outcomes are listed in the table below along with the survey questions and the variables used to derive the outcome variables.

Outcome Measure	Corresponding Variables & Questions	
	Variable	Question
1 Average number of days MST used during the past 30 days	irsnffm	NSDUH derived variables based on the following question: During the past 30-days, that is, since [DATEFILL], on how many days did you use snuff?
2 Past 30-day use of other tobacco products	ircigrc ircgrc irchwr irpipmn	NSDUH derived variables based on the following: Now think about the past 30-days -- that is, from [DATEFILL] up to and including today. During the past 30-days, have you smoked part or all of a cigarette/cigar? (Two separate questions about cigarettes and cigars) During the past 30-days, have you used chewing tobacco, even once? During the past 30-days, that is, since [DATEFILL], have you smoked tobacco in a pipe, even once?
3 # of days of cigarette smoking on days smoked	ircigfm	During the past 30-days, that is, since [DATEFILL], on how many days did you smoke part or all of a cigarette?
4 Past 30-day amount of cigarette use on days used	cigavgd	On the [CG07 days / CIGDKRE] you smoked cigarettes during the past 30-days, how many cigarettes did you smoke per day, on average?
5 Past 30-day day cigarette AND past 30-day smokeless tobacco use	irsnfrc=1 & ircigrc=1	NSDUH derived variables based on the following questions: Now think about the past 30-days, that is from [DATEFILL] up to and including today. During the past 30-days, have you used snuff, even once? Now think about the past 30-days – that is, from [DATEFILL] up to and including today. During the past 30-days, have you smoked part or all of a cigarette?

- **User Groups**

This section describes the definition of user groups and variables used to identify these groups, as presented in Section 3.2.

User Groups	Definitions	Variables / Syntax
Past 30-day smokeless tobacco users (Total MST)	Adults who reported use of smokeless tobacco in past-30 days, irrespective of use of any other tobacco product	irsnfrc=1 & age2>=7
Past 30-day smokeless tobacco users and NOT past 30-day cigarette users (Exclusive MST*)	Adults who reported use of smokeless tobacco in past-30 days and NOT reported use of a cigarette in the past-30 days, irrespective of use of any other tobacco product	irsnfrc=1 & ircigr~1 & age2>=7
P30 day cigarette AND P30 days smokeless tobacco users (MST & Cigarettes)	Adults who reported use of a cigarette in the past-30 days AND also reported use of smokeless tobacco in the past-30 days, irrespective of use of any other tobacco product	irsnfrc=1 & ircigr=1 & age2>=7
All adults	All adults 18 years of age or older	age2>=7

*MST exclusive of cigarette smoking.

Footnote: n=1581 for Total MST group, n=891 for Exclusive MST group, and n=690 for MST & Cigarettes group. Sample sizes may vary from one analysis to another due to missing values ("don't know" and "refused" answers as well as improbably responses removed by NSDUH team) on the outcome variables. Actual sample size for each analysis is shown in the size of the subgroup population (i.e., "Subpop. no. obs" in the output).

- **Results: Syntax and Output**

In this section, we present Stata syntax and original output tables to generate results shown in Section 3.2.

Outcome 1: Average number of days MST use during the past 30-days

* *Means of the outcome

* **Table 1. Syntax and output for average number of days of MST use during past 30-days among Total MST group**

```
. svy, subpop(if irsnfrc==1 & age2>=7): mean irsnffm, cformat(%2.1f)
(running mean on estimation sample)
```

Survey: Mean estimation

```
Number of strata =      50      Number of obs   =      55,271
Number of PSUs   =      100     Population size = 265,122,864
                                   Subpop. no. obs =      1,581
                                   Subpop. size   = 6,957,538.77
                                   Design df      =           50
```

	Linearized			
	Mean	Std. Err.	[95% Conf. Interval]	
irsnffm	20.7	0.4	19.9	21.5

*** Table 2. Syntax and output for average number of days MST use during the past 30-days among Exclusive MST group and MST & Cigarettes group**

The 1581 observations include 891 in the Exclusive MST group and 690 in the MST & Cigarettes group.

```
. svy, subpop(if irsnfrc==1 & age2>=7): mean irsnffm, over(cig30) cformat(%2.1f)
(running mean on estimation sample)
```

Survey: Mean estimation

```
Number of strata =      50      Number of obs   =      55,271
Number of PSUs   =     100      Population size = 265,122,864
                                   Subpop. no. obs =      1,581
                                   Subpop. size   = 6,957,538.77
                                   Design df      =           50
```

```
0: cig30 = 0
1: cig30 = 1
```

		Linearized			
Over		Mean	Std. Err.	[95% Conf. Interval]	
irsnffm					
	0	23.4	0.6	22.3	24.6
	1	16.1	0.5	15.2	17.1

Footnote: "0" group includes past 30-day adult smokeless tobacco users who did not smoke cigarettes during the past 30 days, and "1" group includes past 30-day adult smokeless tobacco users who smoked cigarettes during the past 30 days.

****Categories of the outcome**

We also ran tabulations for a categorical past 30-day smokeless tobacco use variable for the three groups.

*Syntax used to generate the categorical outcome variable

```
recode irsnffm (0=0) (1/2=1) (3/5=3) (6/9=4) (10/14=5) (15/19=6) (20/24.5=7) (25/29=8)
(30=9), gen(snf30dayc)
```

*** Table 3. Syntax and output for categorical number of days of MST use during past 30-days among Total MST group**

```
. svy, subpop(if irsnfrc==1 & age2>=7): tab snf30dayc, per ci format(%2.0f)
(running tabulate on estimation sample)
```

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	1,581
			Subpop. size	=	6,957,538.77
			Design df	=	50

RECODE of irsnffm (SNUFF FREQUENCY PAST MONTH - IMPUTATIO REVISED)	percentage	lb	ub
1-2 days	11	9	14
3-5 days	9	7	11
6-9 days	4	3	5
10-14 da	6	5	8
15-19 da	6	4	8
20-24 da	7	5	8
25-29 da	7	5	9
30 days	50	47	54
Total	100		

Key: percentage = cell percentage
lb = lower 95% confidence bound for cell percentage
ub = upper 95% confidence bound for cell percentage

*** Table 4. Syntax and output for categorical number of days of MST use during past 30-days among MST & Cigarettes group**

. svy, subpop(if irsnfrc==1 & cig30==1 & age2>=7): tab snf30dayc, per ci format(%2.0f)
(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	690
			Subpop. size	=	2,593,655.3
			Design df	=	50

RECODE of irsnffm (SNUFF FREQUENCY PAST MONTH - IMPUTATIO N REVISED)	percentage	lb	ub
1-2 days	18	14	23
3-5 days	12	9	15
6-9 days	7	5	9
10-14 da	8	7	11
15-19 da	9	7	13
20-24 da	10	7	14
25-29 da	7	5	10
30 days	29	25	33
Total	100		

Key: percentage = cell percentage
lb = lower 95% confidence bound for cell percentage
ub = upper 95% confidence bound for cell percentage

*** Table 5. Syntax and output for categorical number of days of MST use during past 30-days among Exclusive MST group**

. svy, subpop(if irsnfrc==1 & cig30==0 & age2>=7): tab snf30dayc, per ci format(%2.0f)
(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	891
			Subpop. size	=	4,363,883.48
			Design df	=	50

RECODE of irsnffm (SNUFF FREQUENCY PAST MONTH - IMPUTATIO N REVISED)	percentage	lb	ub
1-2 days	7	4	10
3-5 days	7	5	10
6-9 days	2	1	4
10-14 da	5	3	7
15-19 da	4	2	7
20-24 da	4	3	6
25-29 da	7	5	10
30 days	63	58	68
Total	100		

Key: percentage = cell percentage
lb = lower 95% confidence bound for cell percentage
ub = upper 95% confidence bound for cell percentage

Outcome 2: Past 30-day use of other tobacco products

*Syntax used to generate the variable of past 30-day use of cigarettes, cigars, chewing tobacco, and pipe tobacco

```
recode ircigrc ircgrrc irchwrc irpipmn (1=1) (else=0)
```

*** Table 6. Syntax and output for average number of days of MST use during past 30-days among Total MST group**

Syntax

```
. foreach var of varlist ircigrc ircgrrc irpipmn irchwrc {  
  2. svy, subpop(if irsnfrc==1 & age2>=7): tab `var', per ci format(%2.0f)  
  3. }
```

Cigarettes

(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	1,581
			Subpop. size	=	6,957,538.77
			Design df	=	50

CIGARETTE			
RECENCY -			
IMPUTATIO			
N REVISED		percentage	lb ub

no P30D		63	60 65
P30D		37	35 40
Total		100	

Key: percentage = cell percentage
 lb = lower 95% confidence bound for cell percentage
 ub = upper 95% confidence bound for cell percentage

Cigars

(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	1,581
			Subpop. size	=	6,957,538.77
			Design df	=	50

CIGAR			
RECENCY -			
IMPUTATIO			
N REVISED		percentage	lb ub

no P30D		85	82 87
P30D		15	13 18
Total		100	

Key: percentage = cell percentage
 lb = lower 95% confidence bound for cell percentage
 ub = upper 95% confidence bound for cell percentage

Pipe

(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	1,581
			Subpop. size	=	6,957,538.77
			Design df	=	50

PAST			
MONTH			
PIPE USE			
-			
IMPUTATIO			
N REVISED	percentage	lb	ub

no P30D	98	97	99
P30D	2	1	3
Total	100		

Key: percentage = cell percentage
 lb = lower 95% confidence bound for cell percentage
 ub = upper 95% confidence bound for cell percentage

Chewing tobacco

(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	1,581
			Subpop. size	=	6,957,538.77
			Design df	=	50

CHEWING			
TOBACCO			
RECENCY -			
IMPUTATIO			
N REVISED		percentage	lb ub

no P30D		79	76 81
P30D		21	19 24
Total		100	

Key: percentage = cell percentage
 lb = lower 95% confidence bound for cell percentage
 ub = upper 95% confidence bound for cell percentage

Outcome 3: Average number of days of cigarette smoking during past 30-days

*** *Means of the outcome**

*** Table 7. Syntax and output for average number of cigarette during past 30-days among MST & Cigarettes group**

```
. svy, subpop(if irsnfrc==1 & cig30==1 & age2>=7): mean ircigfm, cformat(%2.1f)
(running mean on estimation sample)
```

Survey: Mean estimation

```
Number of strata =      50      Number of obs   =      55,271
Number of PSUs   =      100     Population size = 265,122,864
                                   Subpop. no. obs =       690
                                   Subpop. size   = 2,593,655.3
                                   Design df      =         50
```

	Linearized			
	Mean	Std. Err.	[95% Conf. Interval]	
	-----+-----			
ircigfm	19.2	0.4	18.4	20.1

****Categories of the outcome**

We also ran tabulations for a categorical past 30-day cigarette smoking variable for the MST & Cigarettes group.

Syntax to generate the categorical variable

```
recode ircigfm (0=0) (1/2=1) (3/5=3) (6/9=4) (10/14.5=5) (15/19=6) (20/24.5=7) (25/29=8)
(30=9), gen(cig30dayc)
```

*** Table 8. Syntax and output for categorical number of cigarette during past 30-days among MST & Cigarettes group**

```
. svy, subpop(if irsnfrc==1 & cig30==1 & age2>=7): tab cig30dayc, col per ci
format(%2.0f)
```

(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,271
Number of PSUs	=	100	Population size	=	265,122,864
			Subpop. no. obs	=	690
			Subpop. size	=	2,593,655.3
			Design df	=	50

RECODE of ircigfm	column	lb	ub
1-2 days	15	12	18
3-5 days	10	8	13
6-9 days	4	2	7
10-14 da	6	4	10
15-19 da	5	3	7
20-24 da	8	6	12
25-29 da	7	4	10
30 days	45	41	49
Total	100		

Key: column = column percentage
 lb = lower 95% confidence bound for column percentage
 ub = upper 95% confidence bound for column percentage

Outcome 4: Past 30-day amount of cigarette use on days used

*** Table 9. Syntax and output for categorical number of cigarettes during past 30-days among MST & Cigarettes group**

. svy, subpop(if irsnfrc==1 & cig30==1 & age2>=7): tab cigavgd, col per ci format(%2.0f)
(running tabulate on estimation sample)

Number of strata	=	50	Number of obs	=	55,268
Number of PSUs	=	100	Population size	=	265,109,955
			Subpop. no. obs	=	687
			Subpop. size	=	2,580,745.45
			Design df	=	50

AVG NUMBER OF CIGARETTE S SMOKED PER DAY	column	lb	ub
<1	11	9	15
1	14	11	18
2-5	26	22	31
6-15	25	22	30
16-25	19	15	23
26-35	2	1	4
35+	2	1	5
Total	100		

Key: column = column percentage
lb = lower 95% confidence bound for column percentage
ub = upper 95% confidence bound for column percentage

Outcome 5: Past 30-day use of both smokeless tobacco and cigarettes

***Syntax to generate the outcome variable**

```
gen smklscig=1 if irsnfrc==1 & ircigrc==1
replace smklscig=0 if irsnfrc>1 & irsnfrc<=9 & ircigrc>=1 & ircigrc<=9
```

*** Table 10. Syntax and output for past 30-day use of both smokeless tobacco and cigarettes among all adults**

```
. svy, subpop(if age2>=7): tab smklscig , per ci obs format(%2.0f)
(running tabulate on estimation sample)
```

Number of strata	=	50	Number of obs	=	54,380
Number of PSUs	=	100	Population size	=	260,758,981
			Subpop. no. obs	=	40,780
			Subpop. size	=	235,884,228
			Design df	=	50

smklscig	percentage	lb	ub	obs
0	99	99	99	40090
1	1	1	1	690
Total	100			40780

Key: percentage = cell percentage
 lb = lower 95% confidence bound for cell percentage
 ub = upper 95% confidence bound for cell percentage
 obs = number of observations